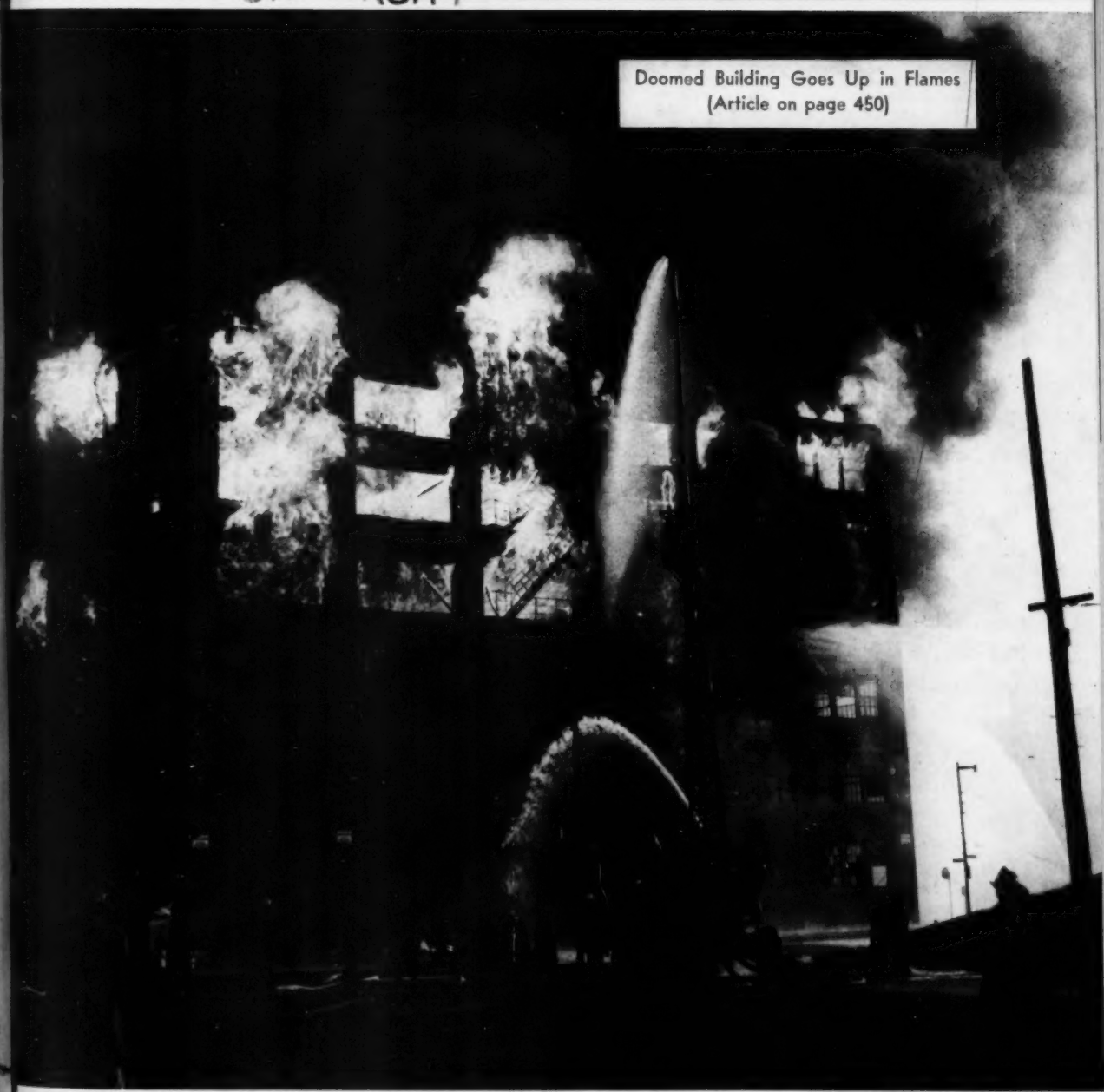
FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

OHIO STATE UNIVERSITY

MAY, 1955



Doomed Building Goes Up in Flames
(Article on page 450)

A CASE - SHEPPERD - MANN PUBLICATION

is Your Community protected

by the MOST EFFECTIVE resuscitating apparatus known to science ?

EMERSON Resuscitators

SIMPLE to operate, with no complicated adjustments.

SAFE for adults, children, or infants. There is no record of lung injury from the pressures used in thousands of cases in more than ten years.

EFFECTIVE The suction phase, alternating with the positive phase, helps circulation and can be of life-and-death importance, especially to victims in shock.

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Write for our free

Medical Reference on Resuscitation

Information and Demonstration

Bulletin on a New Manual Method of Artificial Respiration

"Simplest and Safest"

J. H. EMERSON COMPANY

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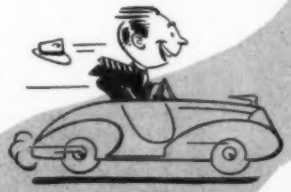
Wake up!

"Spring Fever" — every man's luxury!

We all enjoy it. From palm tree to pine country its a season of buds, Bock beer and brush fires. Meadows are flooded with blossoms, brooks with spring showers and — the highways with "dreamy" drivers who meander all over the road. One-arm drivers who park on the pavement and hot-rodders who race with those more daring.



WAKE UP! You have places to go and important duties to perform! You can't depend on a siren that sounds like a lullaby to these dreamers. Discard the light that looks like a cigarette in the sunset. WAKE UP — WAKE UP the dreamers and dawdlers. A FEDERAL class "Q" or "C" siren — a FEDERAL Beacon Ray light says — WAKE UP!

Get wise to yourself, you need the protection of real signals and so do those who are the traffic blockers. Jar them back to reality with FEDERAL! FEDERAL will get you through fast and safely — save you from criticism, nervous prostration and possible injury.

Write now for vehicle signal literature.

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

D. PEDERSEN
Editorial Assistant

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Spread The Ideas

"New ideas always take shape within a small group of men whose task it is to spread them and get them accepted by the people."

Emery Reves—
The Anatomy of Peace

THE best ideas in the world—including those affecting the vast and varied fire service—are valueless if they do not reach beyond their creators.

● It is the function of business and engineering publications like FIRE ENGINEERING to seek out ideas, to give them finite form, and to promulgate them when and where they will do the most good by being translated into action. For ideas without action get nowhere.

● FIRE ENGINEERING cannot be subscribed to by every one of the million or more professional and volunteer fire fighters in this nation, but it is the accepted "bible" of the *leaders*, the idea-creators of the fire service—those to whom the fire protection and fire prevention world looks for guidance and who set the pace and the policies.

● Through these key "sparkplugs" ideas given shape and form in FIRE ENGINEERING percolate to the farthest reaches of the globe—wherever, in fact, there is found organized fire fighting.

● When *you* read this Journal, see how many of these ideas *you* can find—in the advertising as well as the editorial pages.

The Publishers

FIRE ENGINEERING

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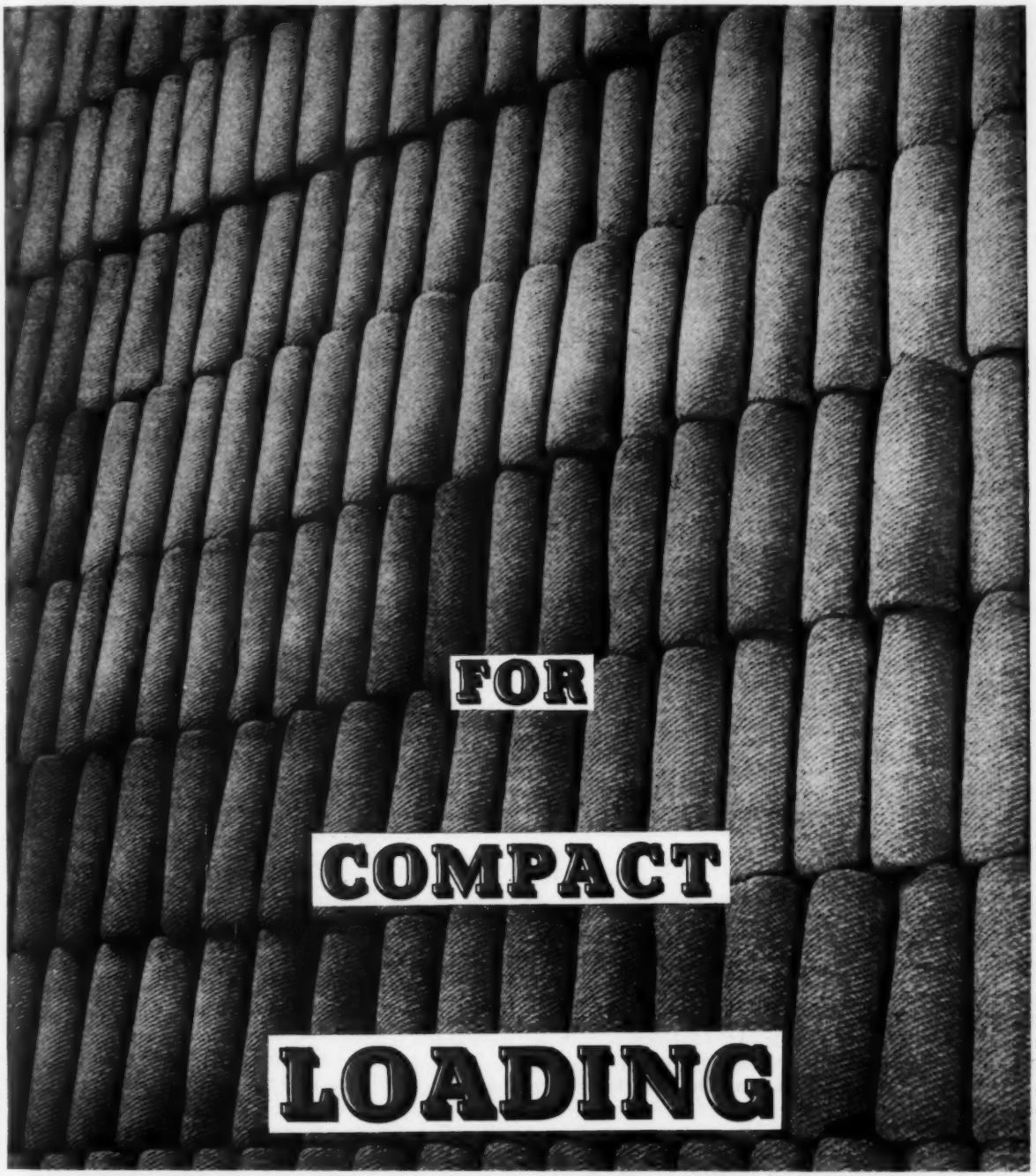

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Philadelphia protects its historic shrines and industrial might with

John BEAN HPV* Fire Fighters

Philadelphia — and the nation — cherish the city's many historic landmarks, among them Independence Hall and the Betsy Ross flag-house. Yet the heartbeat of Philadelphia is its big industry — the city ranks among the country's first ten manufacturing centers. So that fires can be controlled before they destroy buildings that are irreplaceable—or cause production shut-downs that can affect thousands—Philadelphia needs top-notch fire protection equipment — apparatus that is versatile, absolutely dependable and, above all, fast in action. For these reasons, Philadelphia's Fire Department, under the leadership of Deputy Fire Commissioner George E. Hink, added four John Bean HPV* Fire-Fighters.

Now, Philadelphia's firemen are armed with the triple fire-killing power of John Bean's true High-Pressure Fog. Delivered at 850 PSI pump pressure, it cools, it smothers, it isolates flames in seconds — and uses only 10% of the water needed with ordinary pressures. Either separately or simultaneously, hard-slugging Underwriters' approved volume streams are delivered when needed. Two great John Bean pumps and two proven methods of fire-fighting — both are combined in a single piece of compact, modern equipment.

Today's trend in fire protection is to John Bean HPV*. Learn what it can do for your community — write today.

Using John Bean HPV equipment, Philadelphia firemen fight stubborn fire in a warehouse storing rubber, excelsior, paper and jute. Fire was completely out in less than 6 hours. In another city, employing conventional apparatus, a similar fire took 6 days to control.

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HPV — THE TWO-FISTED FIREFIGHTER** ***with both High-Pressure Fog and Volume Pumps

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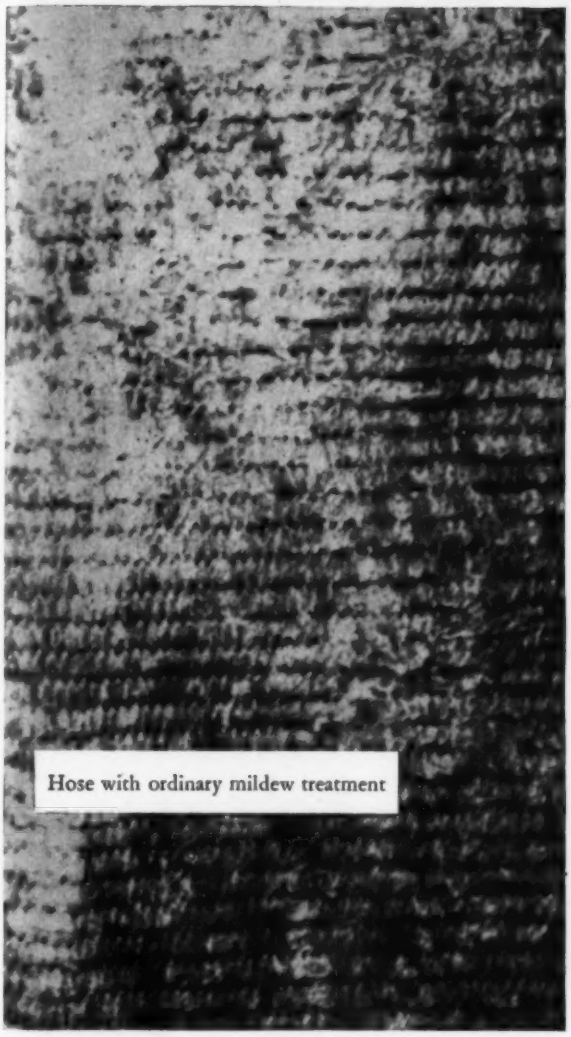
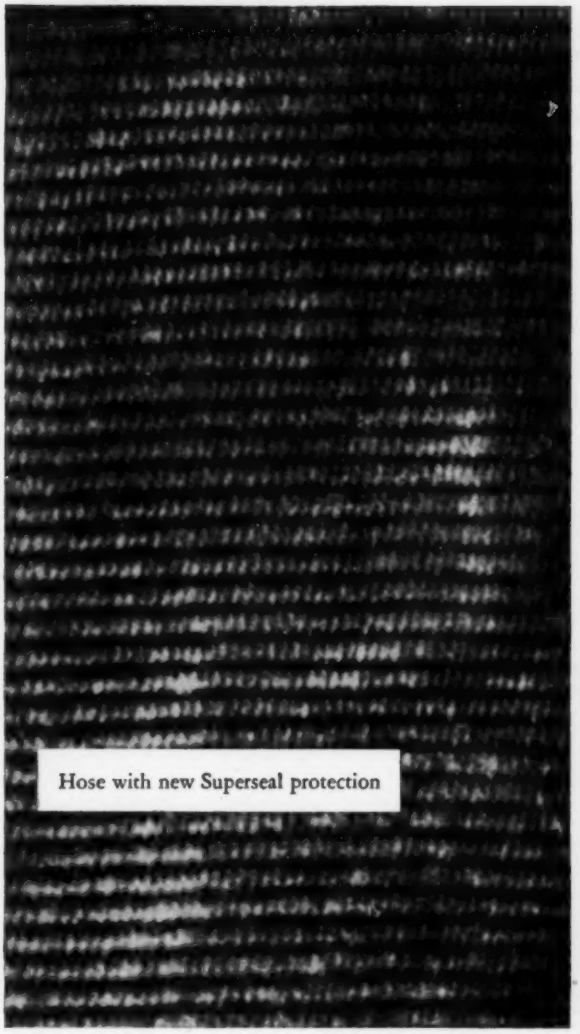
A PRODUCT OF FOOD MACHINERY AND CHEMICAL CORPORATION

B. F. Goodrich announces



Hose with ordinary mildew treatment



Hose with new Superseal protection

New treatment makes hose 10 times more resistant to mildew attack

HERE'S proof that the new Superseal fire hose treatment, recently announced by B. F. Goodrich, resists moisture absorption and mildew attack 10 times more effectively than any other treatment.

Three lengths of hose were buried in a plot of ground that had been infested with mildew spores, maggots and microbes. After 8 weeks, the untreated hose (not shown here) was reduced to powder. The hose treated the old way (at left, above) wasn't much better—couldn't hold water. But the hose on the right, with B. F. Goodrich Superseal protection, looked good as new, still had 96% of its original strength.

This new B. F. Goodrich treatment is not just a surface application. The chemical solution penetrates and protects every cord in both the inner and outer jackets, prepares the hose for all sorts of weather. And, unlike ordinary treatments, the B. F. Goodrich process actually *increases* the adhesion between jacket and tube. And, in addition, it gives extra safety because the chemical makes B. F. Goodrich hose more flame-resistant.

Next time you need fire hose, order B. F. Goodrich and specify Superseal. It costs no more than ordinary treatments, but gives you maximum protection against mildew attack, rotting and freezing.

There's a B. F. Goodrich fire hose distributor near you, ready to bring this and other B. F. Goodrich hose improvements to your department. Give him a call or write *The B. F. Goodrich Company, Dept. M-424, Akron 18, Ohio.*

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INDUSTRIAL PRODUCTS DIVISION

MIDWESTERN

Safety Clothing for FIREMEN

The Original
STRIPED SAFETY COAT

- Greater Visibility
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- Superior Design

The striped safety coat for firemen is an *original* MIDWESTERN development . . . featuring highly visible yellow stripes which are *rubberized as part of the material* . . . not painted, glued or sewed on!

Service records prove that Midwestern Striped Safety Coats withstand years of rugged duty . . . offer high safety visibility during the entire life of the garment. Designed exclusively for firemen . . . every detail in construction adds to the service, comfort, protection and long wear of the garment.

As an accident prevention measure, more and more fire departments are specifying Midwestern Striped Safety Coats as standard equipment. There are many imitations but *no substitute* for the workmanship, built-in comfort and longer wear you receive by specifying MIDWESTERN.

MIDWESTERN COMBINATION SAFETY SUIT

The Midwestern Safety Coat and Bunker Pants combination is preferred by many larger municipal departments. Detachable wool linings. Close fitting collar and elastic inner sleeve on coat keep out sparks and water. Pants have double-stitched seams, reinforcing rivets at points of strain, large, roomy pocket space.

QUALITY UNEXCELLED

In our vast selection of materials you will find the type of fabric exactly suited to your climate and needs. For complete information, have your Midwestern dealer show you our complete line. A letter to the factory will also bring you literature and material samples for your inspection.

MIDWESTERN SAFETY MFG. CO. Mackinaw, Illinois

Manufacturers of the Famous MACKINAW Safety Coats

Mrs. Louise Bane holds her twins, Billy (right) and Wendy (left). Fire Chief Masie is at the right, Assistant Chief Jones at left.

The Rescue of Wendy Bane

Two-month-old Wendy Bane, a twin, was limp and unconscious when the family physician and firemen from the Rennerdale, Pa., Volunteer department hurried into the house. Her respiration had been blocked as the result of a choking spell.

The physician's examination detected no heart beat. He motioned to Fire Chief Jim Masie and Assistant Chief Herb Jones. They quickly strapped the facepiece of a Pneolator over Wendy's nose and mouth. All watched her intently as the instrument fed life-giving oxygen into her tiny lungs. Seconds passed.

Then the physician moved his stethoscope over Wendy's chest again. He looked up. His relieved face told that the heart beat had started. A few hours in the hospital completed the cure. Wendy was taken home.

This was the first emergency case for Rennerdale's Pneolator since the unit was donated to the department by the Woman's Auxiliary. Wendy's mother, Louise, a registered nurse, really means it when she says: "I'll love those ladies the rest of my life."

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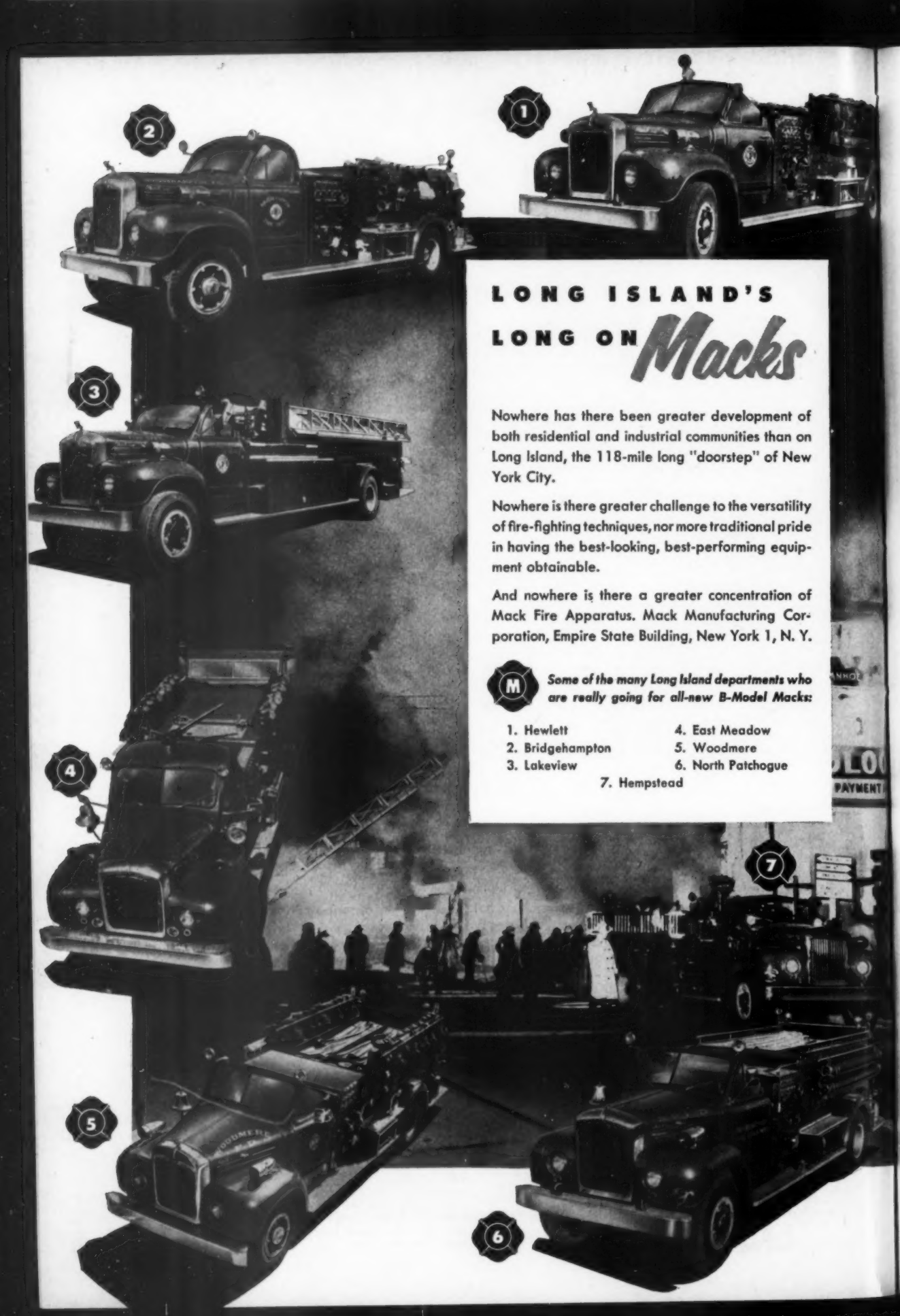

LONG ISLAND'S LONG ON *Macks*

Nowhere has there been greater development of both residential and industrial communities than on Long Island, the 118-mile long "doorstep" of New York City.

Nowhere is there greater challenge to the versatility of fire-fighting techniques, nor more traditional pride in having the best-looking, best-performing equipment obtainable.

And nowhere is there a greater concentration of Mack Fire Apparatus. Mack Manufacturing Corporation, Empire State Building, New York 1, N. Y.

Some of the many Long Island departments who are really going for all-new B-Model Macks:

1. Hewlett
2. Bridgehampton
3. Lakeview
4. East Meadow
5. Woodmere
6. North Patchogue
7. Hempstead

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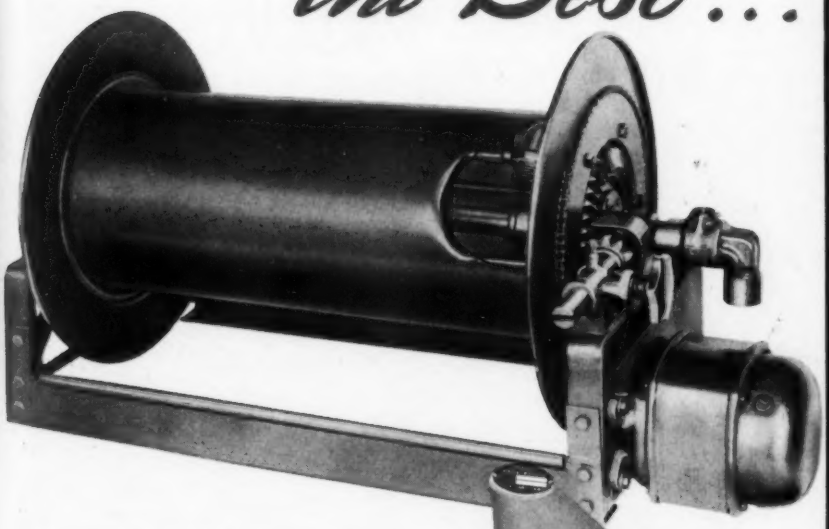

BE SURE YOU SPECIFY and GET HANNAY Hose Reels

Making the best and most dependable hose reels it is possible to make, has been our only business for over twenty years. During this time Hannay Fire Hose Reels have built so enviable a reputation that Hannay has become truly "the greatest Name in hose reels."

There is a Hannay Fire Hose Reel which will meet your requirements exactly. But to get real dependability and service be sure you *specify* and *get* a Hannay.

HANNAY
REG. U. S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, Inc.
WESTERLO, NEW YORK

NEW–

16-page illustrated catalog of complete line of Hannay Fire Hose Reels, including new reel not previously announced. Write for your free copy today.

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NO AC or DC GENERATOR OUTPERFORMS THIS LOW COST—HIGH OUTPUT DC SYSTEM

60 AMP. 2 UNIT

AMERICAN BOSCH
SPECIAL SERVICE GENERATOR SYSTEM

- PROVED IN THOUSANDS OF INSTALLATIONS
- ONLY TWO SMALL UNITS TO BUY
- EASY TO INSTALL AND SERVICE
- AMPLE OUTPUT FOR EXTRA ELECTRICAL LOADS
- MUCH LESS BATTERY EXPENSE & BELT WEAR

Put a stop to high maintenance costs caused by extra electrical loads that run down batteries on Fire Fighting equipment. The low-cost American Bosch Special Service Generator System is the answer . . . its remarkable dependability has been demonstrated in countless hundreds of thousands of miles of service for many fleet owners. It requires little driving power and does not reduce top engine speed. It gives you the powerful support that keeps batteries fully charged despite the drain of 2-way radio, extra electrical accessories or frequent idling. The GRC Special Service Generator is only 5" in diameter. The famous RGR two-stage Voltage Regulator assures positive protection against runaway voltage. Only 2 small units to install and service. The GRC cuts costs in many ways . . . saves installation expense, batteries, belts and maintenance, and gives you more trouble-free miles of service from your apparatus.

• • •

Write for 20-page booklet #3595 for the complete story on the GRC Generator System. Models available in 6 volts 60 amps., 12 volts 30 amps., 12 volts 50 amps. American Bosch, Springfield 7, Mass. A Division of American Bosch Arma Corporation.

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Components for Aircraft Engines

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Diesel Fuel Injection Equipment

Here's your "Task Force" for any type of fire

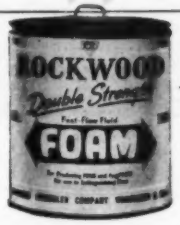
Complete team of Rockwood portable products combines speed, versatility and economy

Separately, each of these Rockwood products has its own particular advantages for fighting various types of fires. Together, they make a mobile, multi-purpose task force that delivers a whale of a lot of protection against *any* type of fire, whether it's Class A (wood, paper, rags, etc.), or Class B (flammable liquids). That includes personnel protection, too, because safety for the men who use them is an essential factor in all Rockwood fire fighting products.

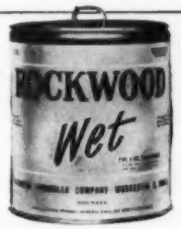
With this versatile team guarding your property you get over-all security that's priceless. Yet this security is yours at very low cost — for Rockwood's long, practical experience and constant research bring you not only new *efficiency* but new *economy* in fire-fighting methods and equipment. It will pay you to learn more about these and many other Rockwood products. Mail the coupon today.

* **Type SG-60 Nozzle.** A true all-purpose nozzle that fights fire 5 ways. It discharges high velocity WaterFOG, low velocity WaterFOG (with applicator), FogFOAM, solid stream of water or solid stream of FOAM.

FOAM and "Wet" Eductor with the new FW Metering-Check Valve. Introduces Rockwood FOAM or "Wet" into hose lines, automatically proportioning correct amount of FOAM and "Wet" to water. Also usable wherever one liquid is fed into another on a fixed percentage basis.

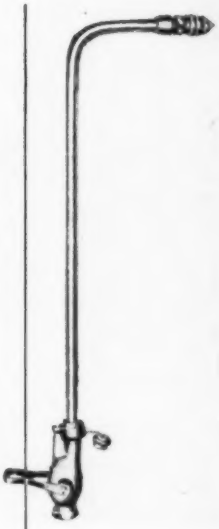


* **Rockwood Double Strength FOAM.** Puts out fires in flammable liquids, and in ordinary combustibles, quicker, at lower cost. Three parts FOAM and 97 parts water create a tremendous heat-resistant blanket. Flows freely at —15°F.



* **Rockwood WET.** One part WET mixed with 99 parts water increases water's penetration and extinguishing action. Gives quickest results against deep seated fires. Saves time, water, manpower.

Bayonet Piercing Applicator. Has a hardened steel cutting tool attached to tip, enabling operator to pierce through partitions, into interiors, etc. Discharges low velocity WaterFOG or FogFOAM.



* **Long Extension Applicator.** Discharges low velocity WaterFOG in an umbrella pattern, smothering fire without causing turbulence to flammables. Excellent personnel protection is another advantage.

FF Extension Unit. Shown with Type SG-60 Nozzle. Discharges Rockwood FOAM in a solid stream or as FogFOAM. Wide angle makes it possible to cover large areas at one time.

**NOTE: These products have been tested and listed by Underwriters' Laboratories, Inc.*

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Engineers Water . . . to Cut Fire Losses

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Title_____
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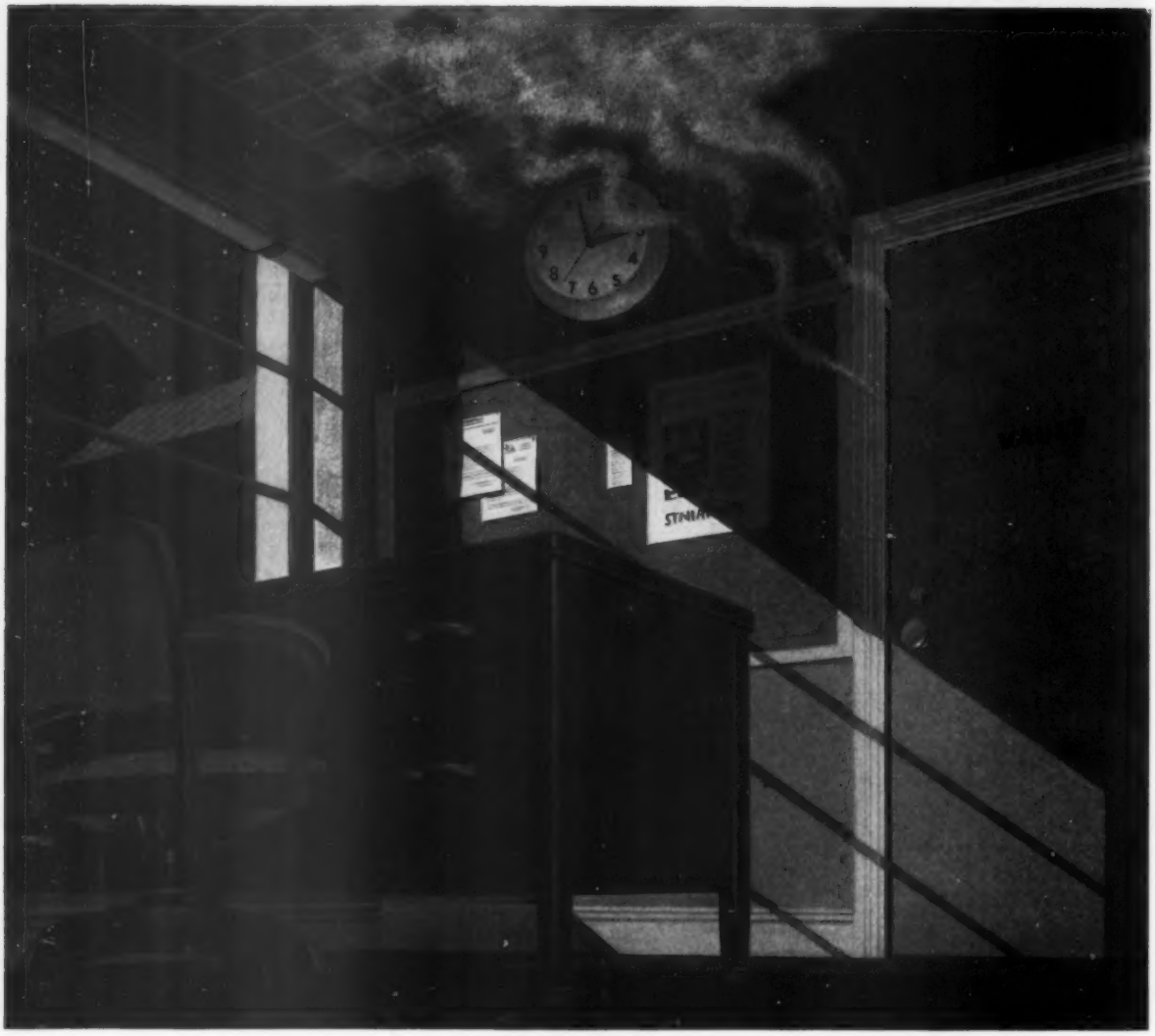

WHAT HAPPENS NEXT?

If management has been wise, a fire tragedy will be stopped before it starts...if not, in 20 minutes extensive destruction and total loss could readily be the result.

First-rate fire protection is essential to the continued success of any business. With C-O-TWO Smoke or Heat Fire Detecting Systems, plus C-O-TWO High Pressure or Low Pressure Carbon Dioxide Type Fire Extinguishing Systems, as well as PYRENE Air Foam Type Fire Extinguishing Systems for specific outdoor locations, your plant can have fast, positive round-the-clock fire watchman service simultaneously at each fire hazard point . . . a fire tragedy is stopped before it starts.

Furthermore, there is a personal sense of responsibility inherent with PYRENE—C-O-TWO Fire Protection Engineers that assures you of fully adequate firesafety . . . a definite plus in your behalf. Whether it's fire detecting or fire extinguishing . . . portables or built-in systems . . . PYRENE—C-O-TWO means top quality backed by experienced engineering that results in operating superiority for you at all times.

Act now . . . don't take unnecessary chances with your investment any longer . . . the extensive experience of PYRENE—C-O-TWO over the years is at your disposal without obligation. Remember . . . a plant-wide fire protection survey skillfully executed today could be the means for greater profits tomorrow.

Pyrene

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Sales and Service in the Principal Cities of United States and Canada

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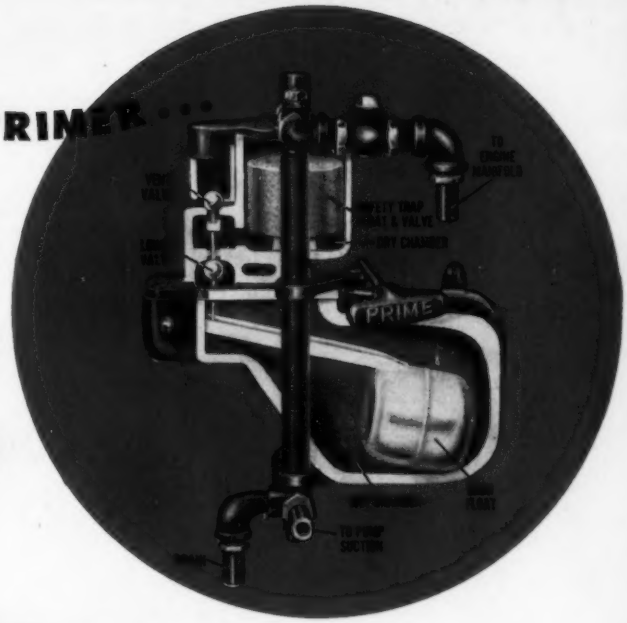
portable fire extinguishers . . . built-in fire detecting and fire extinguishing systems

CARBON DIOXIDE • DRY CHEMICAL • VAPORIZING LIQUID • SODA-ACID • WATER • CHEMICAL FOAM • AIR FOAM

NOW! NEW MODEL PRIMER . . .

GIVES YOU 100% FASTER PRIMING

on Barton-American FIRE PUMPS



FEATURED ON BOTH MIDSHIP AND FRONT-MOUNTED PUMPS—KEEPS PACE WITH NEW, MORE POWERFUL TRUCK ENGINES

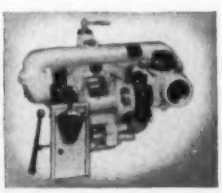
Here's a primer that *cuts priming time in half* on most new pumpers! And it utilizes the same time-tested engine vacuum principle that has proved its dependability for over a third of a century.

Not affected by engine age or wear, this primer always operates with original "like new" efficiency. Trouble-free in basic design and construction, it eliminates the nuisance of maintenance and lubrication required by ordinary primers. On standard installations it gives you frost-proof protection.

Exclusive, patented dual-float construction positively eliminates any possibility of water passing into the engine—another vitally important feature!

In every way, this new model primer keeps pace with the larger displacement engines now in common use on pumpers . . . and it's just one of the superior features you get on Barton-American Fire Pumps.

For complete details, write for Front-mounted Pump Bulletin 8330-B or Midship Pump Bulletins 8733 and 8734—and mention your interest in faster priming!



Choose either a front or midship pump—both include faster vacuum priming system.

AMERICAN-MARSH PUMPS

BATTLE CREEK MICHIGAN

In Canada:
American-Marsh Pumps (Canada) Ltd., Stratford, Ont.

UP...OUT...AND READY FOR ACTION!

Now, a Dragon Fire Pump comes from the factory *completely assembled* in this new carton. Lift out the pump, fill with water—it's ready to fight fire!

This new carton brings you another important advantage: it saves valuable space and simplifies storage problems in either warehouse or fire station. And, remember! There's no pump packing to dry out in a Dragon Fire Pump—an ample supply of pumps can be kept on hand to meet emergency demands and they'll always be ready for instant use!

Yes, even to the shipping carton, a Dragon Fire Pump is designed with the firefighter in mind. When you order back-pack pumps, be sure to specify *Dragon* Fire Pumps.

PARCO PRODUCTS COMPANY

PENNSBURG, PENNSYLVANIA

Dragon **FIRE PUMPS**

now available in 2 models

No. 150-S—Stainless Steel Tank

No. 150-G — Galvanized Tank: Cold-rolled steel, hot-dipped galvanized after fabrication.

All units equipped with brass pumps; all tanks seam welded. Capacity 5 gallons

DRAGON FIRE PUMPS meet Underwriters' Laboratories requirements and can be supplied with the UL label of inspection attached.

VALUABLE DISTRIBUTORSHIPS AVAILABLE, WRITE TODAY.

Niagara Falls Fire Dept. reports:

Lightweight hose made with "Dacron" Reg. U. S. Pat. Off. gets into action fast . . . speeds coiling and racking

Hose made with "Dacron" racks more compactly than conventional hose . . . is easier to coil. "Dacron" strengthens hose and is virtually unaffected by mildew.

Engine Company No. 1, Niagara Falls, uses 6500 feet of hose made with "Dacron"*—and the department reports this flexible hose helps them maintain top efficiency. Hose made with "Dacron" polyester fiber is lightweight . . . easy to handle and carry. This helps the company to get into action fast —makes coiling and racking a quicker, easier job, too.

Fire departments across the country are reporting increased all-around performance from hose made with "Dacron". Used as the load-carrying filling cord that reinforces the hose, this man-made fiber permits a hose that's light and flexible—yet stronger than ordinary hose of the same diameter.

Two years of field testing under all conditions have conclusively proved the superiority of hose made with "Dacron". Du Pont makes only the "Dacron" fiber . . . not the hose. Fire hose made with "Dacron" is produced by all leading fire-hose manufacturers. Ask *your* supplier about it the next time you need hose. E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Dept., Wilmington 98, Delaware.

*REGISTERED TRADE-MARK FOR DU PONT'S POLYESTER FIBER

ADVANTAGES OF FIRE HOSE MADE WITH "DACRON":

- Lighter
- Stronger
- More flexible
- Cuts loading time
- Saves space

DACRON®
POLYESTER FIBER

DU PONT
REG. U. S. PAT. OFF.

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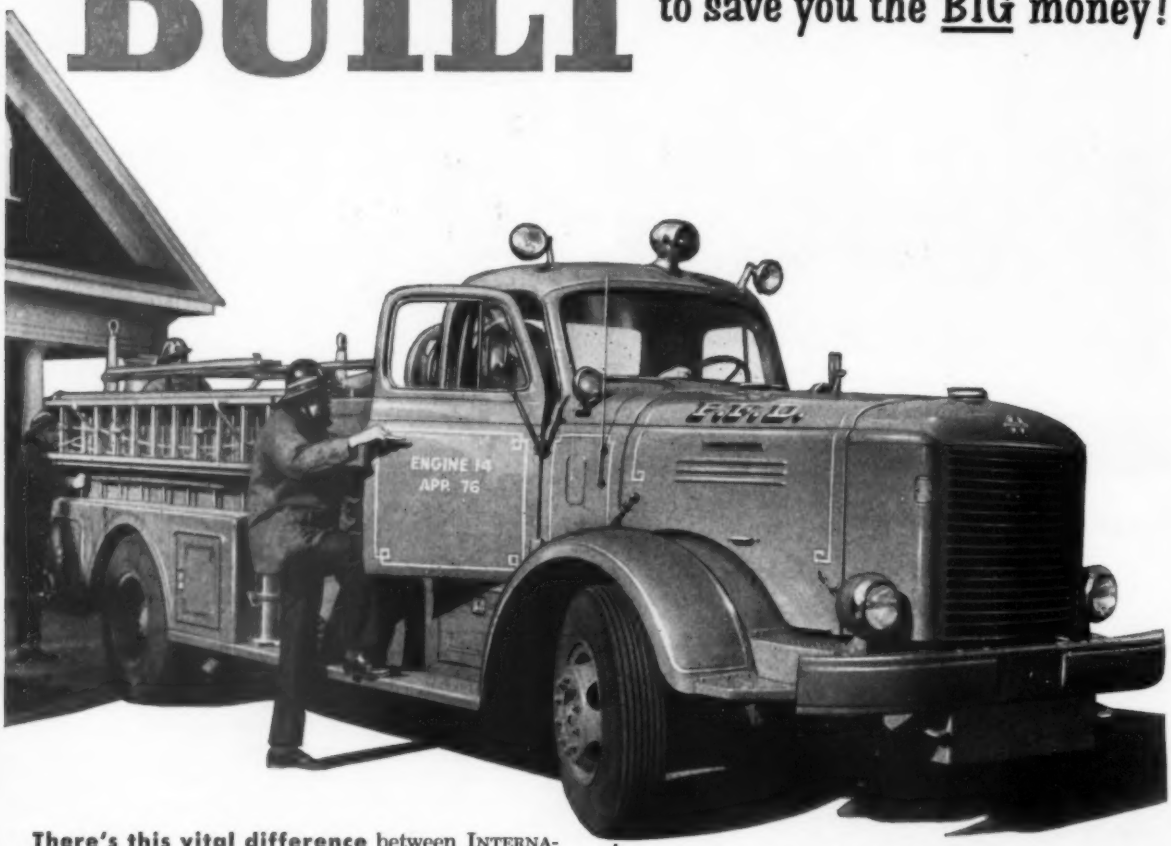
ALL-TRUCK BUILT to save you the BIG money!



There's this vital difference between INTERNATIONAL and other trucks:

Of the 5 leading makes, only INTERNATIONAL builds a complete line of models that are *all-truck* . . . with no automobile engines or components asked to do a truck job.

This means that INTERNATIONALS, with all their comfort and ease of handling, are engineered to give you a longer lifetime of more constant service . . . with less time *off* the job, more time *on* the job, and fewer repair bills along the way. They save you the *big* money . . . the operation and maintenance money.

The proof is in the records of cost-conscious operators . . . and in sales records, too. INTERNATIONAL has led in heavy-duty sales for 23 straight years . . . in "6-wheel" sales 20 straight years . . . in "multi-stop" sales 17 straight years!

Let your INTERNATIONAL Dealer or Branch give you complete facts on the right truck for your job . . . all-truck built to save you the BIG money.

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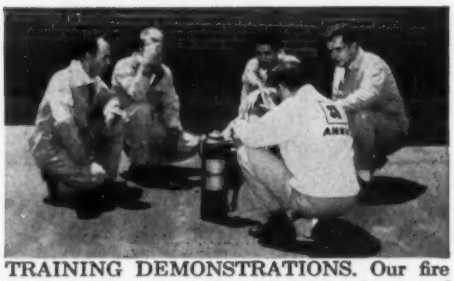
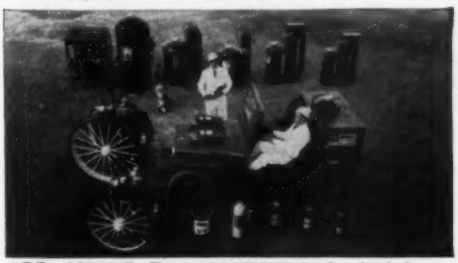
FIRE TRAINING SCHOOL. Here at Marinette your key plant personnel will receive special training in the proper use of every type of fire equipment. They will learn the basic techniques for fighting every kind of fire. This is the best equipped private fire training school in the nation.

There is no need to accept less than Ansul's complete fire protection program!



TRAINING DEMONSTRATIONS. Our fire fighting experts provide training in the use of Ansul equipment at your plant.



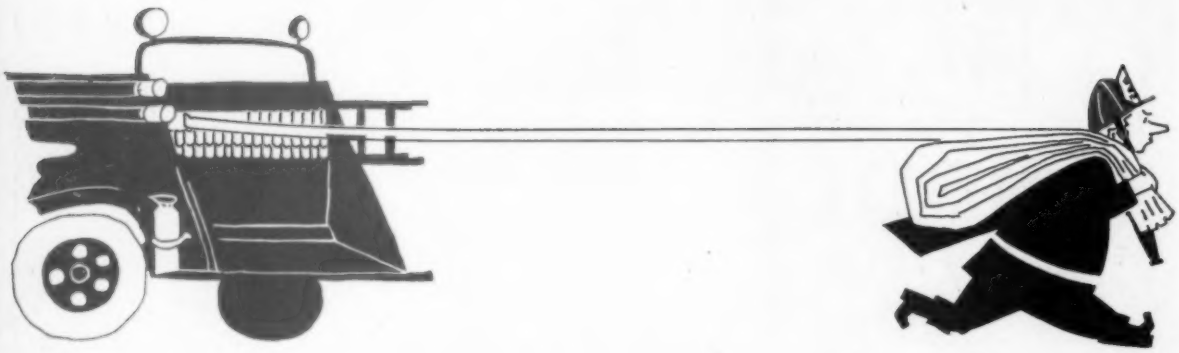
ALL ANSUL EQUIPMENT is backed by a five year warranty, your assurance of fast, effective fire protection.

Experience can be a grim teacher. It has taught many a businessman that you need a *complete* fire protection program to guard against ruinous fire damage. You need *fast, effective equipment,* plus *trained personnel* to man that equipment. Ansul offers *both* and at no extra cost. Get in touch with the Ansul man, he has the story about *complete* fire protection.

Call the Ansul Man!

Get in touch with your local Ansul man through the "yellow pages" or write ANSUL CHEMICAL COMPANY, Dept. F-12, Fire Equipment Division, Marinette, Wisc. Write Ansul for your copy of new Fire Equipment Catalog.

ANSUL



Get to the fire faster —with more hose!

AMERICAN cotton-synthetic jacket hose weighs 18% less, is 27% less bulky and 50% stronger than old-style cotton jacket hose. It has been proved by three years of field service. Why lose time with bulky, hard-to-handle, hose when you can get benefits like these:

CARRY 25% MORE HOSE in the same truck space.

EASIER HANDLING... stays flexible wet or dry, lies flatter, coils better.

UP TO 50% STRONGER... 400 or 600-lb. test.

LONG LIVED—costs you less per foot per year because it lasts longer (much AMERICAN municipal fire hose has been in regular use 25 and 30 years.)

Available in heavy duty, medium weight and light weight jackets, each identified with its woven-in stripe. Every length proof tested with couplings on; test report accompanies shipment. Can be Arcolized to prevent mildew and rot. Order from your dealer or write us now for details.

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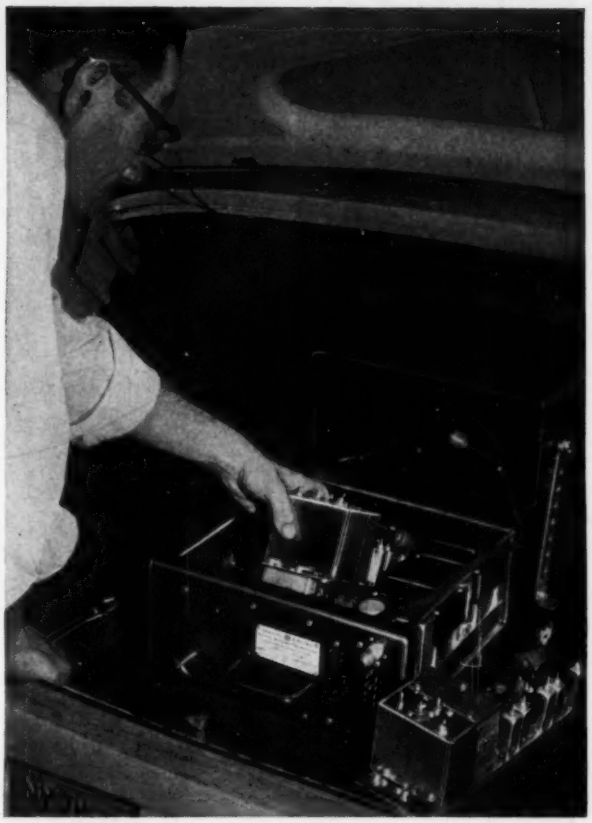
G.E. DEVELOPS NEW PLUG-IN CHASSIS FOR 2-WAY RADIO

NEW PROGRESS LINE saves money on maintenance through faster servicing—protects from obsolescence because chassis are quickly interchangeable.

IN the new Progress Line, transmitter, receiver, power supply and optional chassis are individually rack-mounted in a triple-rigid mobile case. Rapid interchangeability is provided by this rack construction and true plug-in chassis. This plug-in design permits changes in frequency, power, type of reception (narrow or wide band) quickly *at minimum cost, at any time.* You're free of any obsolescence risk!

You may switch Progress Line mobile units—whether front or trunk mount, between vehicles with 6 or 12 volt DC systems. No electrical alterations are needed. And any mobile combination can be converted quickly to a low-cost, 117 volt AC intermittent duty base station by changing only the power supply chassis!

Let a G-E Communications Counselor analyze your radio needs and develop an installation or conversion program planned for long-run savings. Write or call today for full specifications on the new PROGRESS LINE. *General Electric Company, Communication Equipment, Section X5955, Electronics Park, Syracuse, N. Y.*



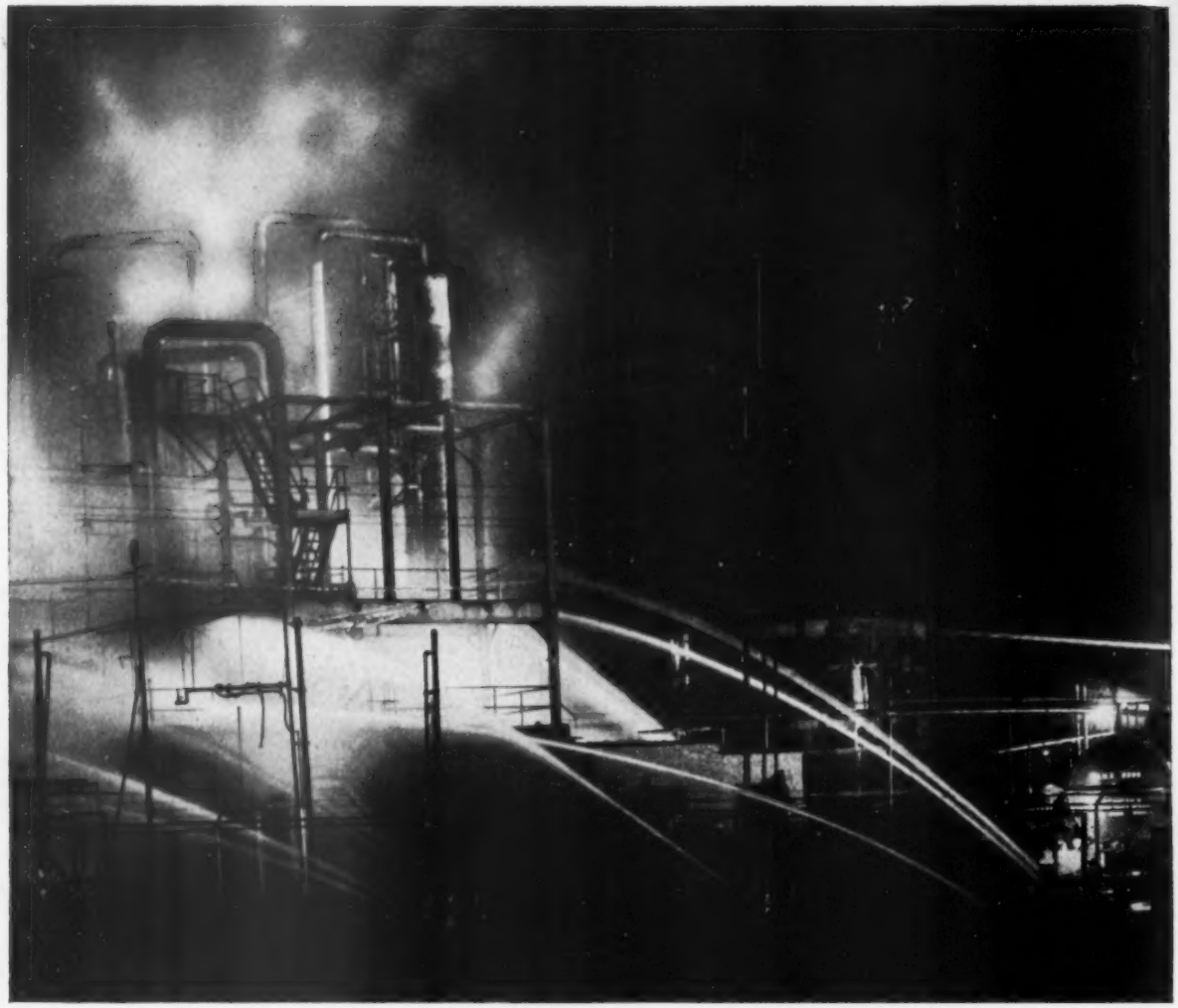
INDIVIDUAL PLUG-IN CHASSIS minimize capital investment in spares and reduce radio maintenance time! Your vehicles will be back "in service" faster. For instance, you can replace either a transmitter or receiver plug-in chassis right in the vehicle in 5 minutes—using only a screwdriver. Individual plug-in chassis of the new General Electric Progress Line units also provide complete interchangeability between mobile and station transmitters and receivers.

There is a G-E Authorized Service Station near you. Look for this sign.

EASY FRONT MOUNTING under the dash. The new G-E Progress Line case is less than 15" deep. For the first time you can have a 90-watt front mount mobile unit in the 25-54 MC band and a 50-watt front mount mobile unit in the 144-174 MC band. In the 25-54 MC band you can now have simultaneous monitoring of 2 channels, in the same case, without additional equipment.

Progress Is Our Most Important Product

GENERAL ELECTRIC



Oil, Abrasion, Heat Won't Hurt Remarkable Petrochem Fire Hose

Here's a fire hose that was specifically designed for the oil industry—Petrochem . . . absolutely oil-resistant, inside and out. It has many other advantages, too . . . it's 50% lighter, yet takes 50% more pressure than conventional, oil-resistant fire hose. It's so flexible that it can be tied in knots without damage. It can be easily coiled or folded for minimum storage. Petrochem is strong and abrasion-resistant . . . will give superlative performance under any refinery conditions, for pressures up to 500 pounds and temperatures up to 300°F.

Tube is of Neoprene . . . jacket of Dacron yarn, impregnated with black Neoprene . . . means complete oil-resistance, inside or out.

We also manufacture a complete line of industrial rubber products: belting, hose, packing and moulded rubber of every construction for every need. *Through your Quaker and Quaker Pioneer distributor* our research and engineering services are always available to help you solve any industrial rubber problem. *Write for free folder and name of nearest distributor.*

QUAKER RUBBER CORPORATION
Philadelphia 24, Pennsylvania

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QUAKER PIONEER RUBBER MILLS
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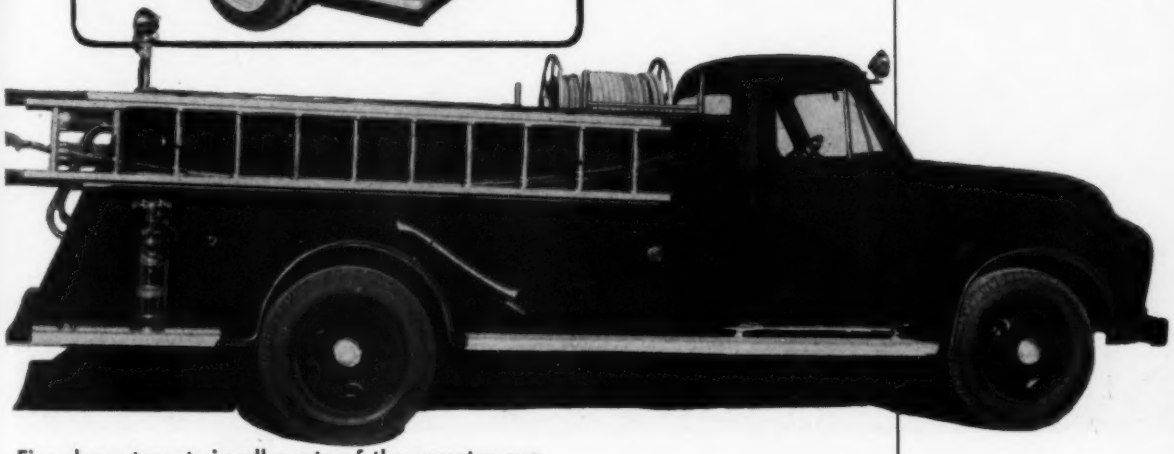
A DEPENDABLE TANKER with a reasonable price tag!



Fire departments in all parts of the country are praising the Boardman Tanker for its dependable rural service. This tanker is equipped with a 500 gallon tank (standard model) and the famous Waterous Pump. There's a combination that will really deliver—and at a pressure, too.

In addition, the Boardman Tanker fights grass and other running fires while in motion—a big factor in rural fire fighting.

When it comes to money, the Boardman Tanker really shines. Its low initial cost results from the use of a standard truck chassis. The make and model is up to you. This standard chassis also means lower repair and maintenance cost.

Let Boardman send you complete information, including literature and prices. There's no obligation, and you'll have all the facts. Write today sure!

THE BOARDMAN CO.
OKLAHOMA CITY
1401 S.W. 11TH
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A FEW CHOICE DEALER TERRITORIES AVAILABLE!

THE BOSTON MAN
in your area is ready
to serve you . . . today!

Suppose this hose should fail *now!*

An investment of up to $55,000 in a modern piece of mobile fire-fighting equipment could, in a sense, "go down the drain" if a fire hose should burst at the crucial moment when it is needed most. The entire investment, at that moment, would be a waste.

No fire-fighting team can afford that risk . . . which explains why BOSTON hose and fittings have been a standard with so many companies over so many years. Not only was BOSTON the originator of the circular weave which made high-pressure fire-hose possible—BOSTON has also maintained the lead in developing still higher-strength hose with the use of modern synthetic fibers.

Municipal fire hose, chemical and booster hose, suction hose, fittings and nozzles . . . if they bear the name "BOSTON" they are BEST on your team.

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Call our distributor in your area. He is your Boston Man.

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Industrial Hose • Fire Hose • Belting • V-Belts • Packing • Tubing • Garden Hose • Tape • Matting and Stair Treads

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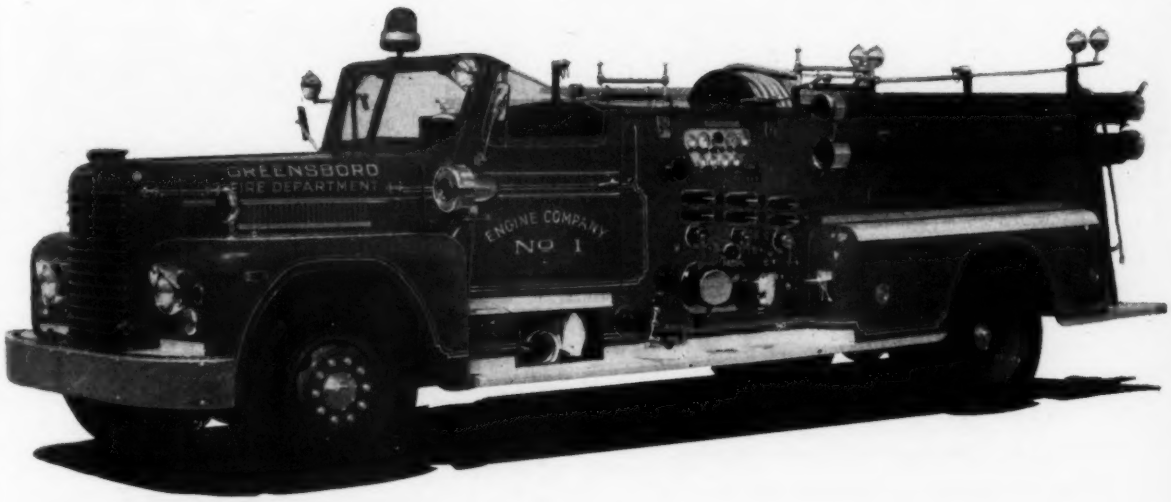
1500

GALLON CLASS "A" PUMPER



OREN is proud of it's THIRD unit for GREENSBORO

Illustrated above is a new Model 1625/1500 Oren Custom-Built Pumper recently added to the Fire Department at Greensboro, N. C., featuring a 1,500 G.P.M. Class "A" Pump, 300 Horsepower Fire Special Engine, and new styling and trim for 1955. Also available are similar models with smaller Pumps and Engines to fit the special requirements of any Fire Department user.

OREN ROANOKE CORP.

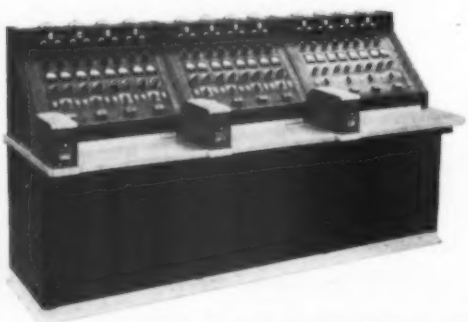
ROANOKE 2, VIRGINIA

LATEST SAFA CITY SANDUSKY OHIO

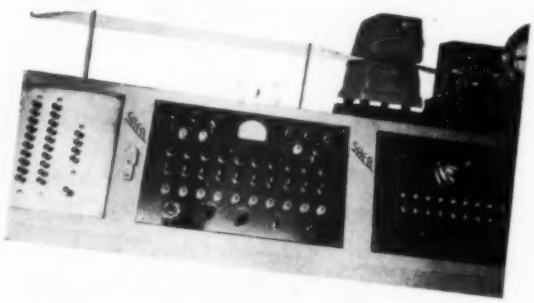
James J. Dunleavy, Vice President and General Manager, SAFA Alarm Division, Orrville, O., Fire Chief Wilson McLaughlin, Mayor Richard B. Fuller and City Manager Karl H. Kugel, are checking on Sandusky's new central control.

SAFA Fire Alarm System—a system both flexible and versatile. Fire alarm boxes strategically located, transmit calls through a chain of central station equipment. Other accepted fire devices: private alarm systems, auxiliary and sprinkler alarms are connected and made part of this system. Solve your fire alarm problems with SAFA—write today for complete information without obligation.

- ★ Two-way communication between "central control" and sub-stations.
- ★ Provides pilot light and buzzer signaling.
- ★ A tone generator to alert sub-station.
- ★ Exceptional tone quality—eliminates static.
- ★ Control panels can be flush-wall mounted. All servicing and fuse replacement from the front.
- ★ Flexible—can be added to at any time.
- ★ Can be built to any modern requirements. Meets all NFPA standards.



Cincinnati also chose SAFA to supplement present equipment. Finish and shape were matched perfectly. SAFA service is prompt and efficient.



SAFA inter-communications system features tone qualities unequaled in any similar system. The perfect secondary communication for any fire department.

SAFA

SAFA ALARM DIVISION

THE FYR-FYTER COMPANY

243 WEST MARKET STREET ORRVILLE, OHIO

MICHIGAN CITY

gets twin pumpers

Michigan City's Fire Chief A. R. Mitchell accepting delivery of two pumpers from M. J. Dalton, Ward LaFrance representative.

Two WARD LaFRANCE pumpers

have just been put into service in Michigan City, Indiana. Specifications for pumpers for the city's progressive fire department were rigid . . . but Ward LaFrance met Michigan City's exacting requirements.

Fire Chief A. R. Mitchell selected Ward LaFrance model 120T pumpers as best suited to his community's conditions. The pumpers are each equipped with a heavy-duty 240 HP engine, specially designed for fire apparatus. This quick-starting engine provides fast acceleration on runs, plus ample power to operate the 1000 GPM pump. Special equipment includes closed cabs, Beacon ray warning lights, folding ladders, 2½" gated suction intake, deck-mounted hose reels, extra side panel discharge gauges and compartment-type body.

Fire chiefs and commissioners who demand dependable equipment are turning more and more to Ward LaFrance. They have found our 37 years' experience building fire apparatus pays off in performance, reliability and low maintenance. Talk to your Ward LaFrance representative. He'll be pleased to help you plan equipment that suits your community's needs.

MID-WEST REPRESENTATIVE
M. J. Dalton
122 W. Main St.
Barrington, Illinois

WARD LaFRANCE
TRUCK CORPORATION

Fire Apparatus Manufacturers for over 37 Years

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Elmira, N.Y. Tel. 3-5631

DIRECT FACTORY BRANCH: 139th Street & Bruckner Blvd.,
New York 54, N.Y.
Tel. CYpress 2-3300

EXPORT: Ward LaFrance International, Inc.,
Elmira, N.Y., U.S.A.
Cable Address: "Wardtruck"

NOW THE FIRST "Packaged" FIRE ALARM SYSTEM

PREVIOUS EQUIPMENT REQUIRED THIS MUCH SPACE

NEW GAMEWELL FORM 4
USES ABOUT THIS MUCH SPACE

For the small community, or for decentralized big city Fire Alarm Systems, The Gamewell Form 4 fills today's needs.

THE GAMEWELL FORM 4

In 20% to 30% of the space previously used, you can install this complete control unit, including batteries.

And the Gamewell Form 4 Automatic Control System enables you to put saved dollars into street fire alarm boxes for public safety and reduced fire losses.

This "packaged" Fire Alarm Control Cabinet is quickly and easily installed. It contains *all* the devices needed for a complete central office setup. It *automatically* repeats box alarms and warns if a circuit is broken. It has a reserve power supply for emergencies and meets NBFU Standards.

FEATURES

- **Requires only 20% to 30% of space previously needed for complete central office equipment including batteries.**
- **Quickly and easily installed.**
- **Reserve power for emergencies.**
- **Available in any capacity required to 10 circuits. Readily expanded to meet growing needs.**
- **Automatically repeats box alarms; warns if a circuit is broken.**

Bulletin 3A gives a complete description of the Gamewell Form 4 Control Cabinet. Write for a copy today. No obligation.

THE GAMEWELL COMPANY
NEWTON UPPER FALLS 64, MASS.

GAMEWELL

THE BOX IS POSITIVE
Reduces Human Error

FIRE ENGINEERING

MAY, 1955 VOL. 108, NO. 5

With the Editor

No Time to Relax Fire Defenses

If the nation, including the fire service, was confused and perplexed over the whole problem of civil defense, prior to February 14 last, it is nothing compared with its bewilderment and frustration that followed the Atomic Energy Commission's announcement that fall-out of the hydrogen bomb would blanket an area of about 7,000 square miles with lethally radioactive material.

The "fall-out" had hardly stopped falling before the air, and the press, were filled with the contradictory utterances of atomic energy scientists, big-time politicians, and small-time civil defense wiseacres.

Don't be alarmed, say the complacent; all will be well, the picture isn't as black as it's painted. Get ready to die, say the alarmists; hustle for your basement bombproof shelter. Get to the shelters, say one group of civil defensers; evacuate and disperse and forget shelters, shout others.

In between, caught in the cross-current of claims, counter claims, and the fog of misinformation, is the hapless fire service. Listening to all the "tumult and the shouting" about fall-out, dispersal, evacuation, it is little wonder that the problems of setting up and maintaining adequate fire defense against enemy attack apparently have gone out the window.

Federal and State Civil Defense officials have done little thinking, and less planning, on atomic *fire defense* since the awesome news about the hydrogen bomb was released. The fire service, always pretty much a step child, is now not even a "poor relation." The natural result has been that interest in planning for and maintaining adequate fire protection as a wartime essential has fallen to a new low.

This regrettable condition should not be allowed to persist. Notwithstanding the welter of confusion in which civil defense wallows, the plain fact is that now, as well as before February, the greatest threat to the nation's safety and security in time of enemy attack is *fire*.

The use of large thermo-nuclear weapons by the enemy, in case of war, to decimate civilians and level cities not primarily defense industry centers, is most unlikely. The use of small atomic and thermo-nuclear bombs and guided missiles on military targets is, of course, probable. So, too, is the use of conventional incendiary bombs on all types of targets.

Evacuation of cities, dispersal of fire forces and other essential municipal services, on threat of enemy attack, regardless of length of warning, and when the exact location of the strike and its extent and severity cannot be anticipated, is no cure. Rather, it may create added hazards and difficulties.

Even if indiscriminate bombing of large cities comes, with the enemy using all types and kinds of atomic, thermo-nuclear, and plain ordinary incendiaries, fire fighting operations, though of necessity confined to windward fringe areas, would still be essential. The lives and property saved would be worth far more than the cost of fire department apparatus and fire department maintenance.

Then, too, fire protection in outlying cities must be kept up to full strength. For if enemy attack is suspected, there will be an exodus of many from the larger cities to smaller outlying municipalities. Overcrowding invariably increases the danger of increased fire and life loss.

It must be remembered, furthermore, that in addition to the threat of atomic and hydrogen blast, fire and fall-out on a scale hitherto unimaginable, we will still have to face the serious threats of normal fires, which can well lay waste our essential industries and resources. Evacuation of fire forces will not disperse these hazards; just the opposite.

It is difficult to envision any modern enemy attack situation in which fire control and defense operations will not play a most important, if not *the* most important role, in civil defense. To think and to plan otherwise may be courting disaster.

Month after month FIRE ENGINEERING has pleaded for leadership by Federal Civil Defense. *Give us a policy, and a program,* we have asked. It needn't be 100 per cent right, but let it be based on proper evaluations of real and potential risks, and on our abilities to fight back. And with it, give us the facilities, the fire suppression reserves commensurate with the risks involved.

As a start, the fire service could use a few of those $12 million, which we understand presently are earmarked for civil defense research.

Fred Shepard

How to Build an Efficient Volunteer Fire Department

Many Factors Have a Bearing on Its Effectiveness; Capable Officers a Major Concern

By FLOYD WM. NELSON*

IN considering the subject of volunteer fire department organization, the first question that comes to mind is "What is the difference between the organization of a paid and a volunteer fire department?" If we deal with the actual mechanics of organization, that is the division of men into companies or squads, their duties at a fire and so forth, we find that there is quite a big difference. If we think in terms of the principles of organization, that is, the basic problems and the aims and purposes we find that there is less difference.

In attempting to form a good fire fighting organization, either paid or volunteer we are dealing with the same basic factors, with only one difference: the form of compensation.

It is necessary to point out these differences or lack of difference between the organization of a paid and a volunteer department, for one reason: too many volunteer Chiefs use the excuse, "We are just volunteers" for not having an active department.

In one town, attendance of the volunteers at a fire school will be exceptional. In another town, of the same size, attendance will be poor. The Chief of the second town will always defend his Department with this statement, "It's hard to get these men together. We are all volunteers. If we were paid like in a city, it would be different." About the 64th time you hear this statement it sounds just a little old.

After all, either paid or volunteer, they both take men and equipment and put water on a fire, for some citizen who is interested only in seeing the fire put out. These, then are the things our organization has to deal with, the public, the fire, the water supply and our equipment and manpower.

Whether the department is paid or volunteer, the public is the same, and

Proper direction of fire fighters, in volunteer departments, is based on depth of command. Unless chain of command is sufficiently deep, there is a possibility of all designated officers being absent at a fire. The result is confusion.

There's usually no shortage of personnel when a large fire occurs.

their regard for the department is usually proportional to the efficiency of the department; except where they are being fooled by a cover-up public relations program.

Sometimes good public relations is the only thing a fire department has, and they get by with it. After all, how do you judge a fire department's efficiency? What are the standards? Few men in the Fire Service have an adequate answer to this question, and the public has a variety of answers.

Who can say that the building burned down yesterday would still be standing if attacked by another fire department? Excuses for losing a fire are a dime a dozen and the 64 dollar reason, inefficiency, is seldom mentioned. In many of the small communities the only way the public judges a department is by how fast they get there. All the public knows about a fire is that if you get there while it is small, it's easier to put out. So, if they have a department that gets there fast, they have a good department. In almost every community, you run into a citizen

*Field Instructor, Firemanship Training, Extension Service, Iowa State College, Ames, Ia. From a paper entitled "Volunteer Fire Department Organization" presented before the annual conference of the Missouri Valley Association of Fire Chiefs, at Omaha, Neb.

who gives you the same old story. "We have a good department here. We had a fire across the street last week, I heard the siren go, so I timed them. They got here in ..... seconds." And then they look at you with a proud look, as much as to say, "Ain't that something? Did you ever hear of a fire department so fast?" Or some fireman will say, "We had a fire out in the country last week. It is 8 miles out there and we were in the yard 8 minutes after we got the alarm." These stories always stop when the department gets to the fire; it doesn't seem to matter what happens after that.

Of course, a very important part of the public we deal with is the officials they have elected; however, they usually know little more about fire fighting than the general public, and your relations with them are just about what you or your predecessors have made them, down through the years.

The second factor mentioned is the fire. The fire certainly does not know whether our department is paid or volunteer. We either put the fire out, help it to burn faster, or use it as an excuse to further damage the property.

Third, we have water. It is either there or it is not. If not within easy reach, we either relay it, haul it or do without.

Then we have our equipment. When the equipment manufacturers sell a piece of equipment, they make no distinction between paid and volunteer.

This brings us to the most important thing that we have to consider: our manpower. And here we have a difference. One receives cash compensation, the other does not. How much does this mean in terms of organization principles? It is frequently said that with the paid man it is a job; with the volunteer it is a hobby, or fun. How valid is this difference? Fire fighting may be fun; but, certainly up to a certain point. On the other hand, any man gainfully employed, whether he be a fire fighter or a ditch digger, who does not enjoy his work, is either misplaced in his job or is working under poor leadership. No man expends time and effort without expecting some form of compensation. A man raises his hand to scratch his nose and expects as his compensation that the nose will stop itching. Money is only one form of compensation. Basically, it provides us with food, shelter and clothing. After these essentials are provided, we look for other things, some of which money cannot buy, and will accept them as compensation for our efforts. We look for recreation or a change of pace. We strive for the respect of our fellow men. We work for self improvement. Some of us have a desire to lead, or rise above the common level. Some of us have a desire to learn or explore the unknown. Most of us have a desire to stand on our own feet in the matter of public service. We want to give some form of public service in order that we can accept the benefits of the public service, efforts of others, and feel that we have earned them. Human nature makes all of these forms of compensation important to us.

These forms of compensation have no budgetary limits. In some communities we have volunteer fire departments whose members receive token payments for fire calls. In many cases this tends to focus the man's attention on the cash compensation, inadequate as it is, and obscures the other benefits. The fire chief who thinks no farther, in terms of compensation, than the cash payments to his men is missing the boat.

In visiting with either paid or volunteer chiefs, their complaints sound somewhat alike. One says, "All my men want to do is put in their time and get the pay check." The other says, "All these men are on the department for is to get in on the feeds and stag parties." One may say, "All my men want to do on drill nights is to play cards." These things that they complain of, loafing, card playing, drinking, lack of attendance at meetings, and so forth, are not problems. They are only symptoms of poor leadership. These things may be headaches, but a headache is not a disease; it is only a symptom of deeper trouble. We frequently make the same mistake in the fire service, in regard to these headaches, as we do with our health. We take aspirin and treat the symptom instead of the disease.

A good example of an aspirin in the Fire Service might be a new fire truck. It a Chief is bothered with department headaches, a new fire truck will clear them up temporarily; but, unless the basic trouble, poor leadership, is corrected, the headaches will soon return. This type of aspirin is expensive and the Town Council will not buy too much of it.

In organizing or reorganizing a fire department, the first thing we are concerned with, is our foundation; that is, our organizational plan or our constitution and by-laws. I would like to point out some of the factors or principles that should govern the preparation of constitution and by-laws. I would also like to make clear that these do's and don'ts of fire department organization are not theories of my own, but, for the most part, things that some fire departments have learned the hard way and passed on to us. Neither do I want to leave the impression that we think your department is poor simply because the rules of your department do not conform to what we think is ideal.

There are at least two factors that can act to give you a good department, even though you have a poor organization plan, or none at all: a good Fire Chief, or a high amount of that elusive factor called morale.

A good Fire Chief does not necessarily need a constitution and by-laws to have a good fire department. He operates his department according to his own good judgment and instinct, and because he happens to have many of the qualifications of a good Chief. He does a fine job. What happens when he retires? All of his instincts and qualifications that have run the department retire with him. How many times have we heard this statement: "They used to have a good department when so and so was Chief, but, they have sure gone down hill since he retired."

While the first duty of the Fire Chief is to provide for the efficient operation of his department while he is active, his second duty is, if possible, to make provisions for the continued efficiency of the department after he retires. He can best do this by seeing that the department has a sound organization plan that is common knowledge to all concerned. There is the old saying that the time to lock the barn door is before the horse is stolen. The time to adopt or strengthen your constitution and by-laws is when they are not needed. It is easy to get an active department to adopt a sound constitution and by-laws. If you wait until the department has slipped, you have quite a job. A group of men, who are content just to slide

Training shows up when the big fire occurs. Here volunteers stretch a line under railroad tracks to make sure there will be no interruption of flow should railway rolling stock pass.

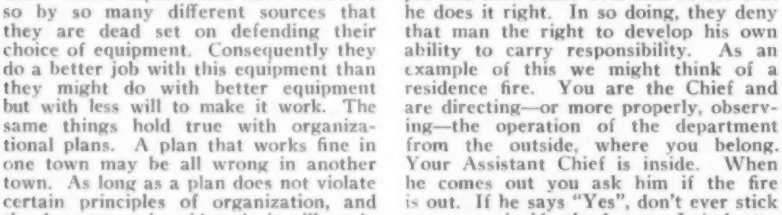
along, will fight to the last ditch a set of rules that would make them get "on the ball."

In helping a fire department with their organizational plan we suggest and guide only. One of the things that we learn very early in the training field is that you cannot, or should not, force anything on any organization. Whether it is by-laws, equipment or methods, we dare not say "This is it. Take it or leave it." If we force anything on a department, then it is our fault if it does not work. If the department makes its own choice, then it's their job to make the thing work, and they usually do. I know of many departments using a particular type of equipment that perhaps 90% of the fire service knows is impractical. These departments have been told so by so many different sources that they are dead set on defending their choice of equipment. Consequently they do a better job with this equipment than they might do with better equipment but with less will to make it work. The same things hold true with organizational plans. A plan that works fine in one town may be all wrong in another town. As long as a plan does not violate certain principles of organization, and the department is sold on it, it will work.

The principle most frequently violated in fire department organization and planning is the lack of division of authority and responsibility. While the final authority must rest with the Chief, he must realize that in order to have an efficient department he must delegate some of his responsibility and authority.

A one man Department is no good.

A good Fire Chief must be able to recognize ability, be willing to delegate responsibility, and give his men the authority to carry out that responsibility. All men are willing to delegate responsibility, but many hesitate to delegate authority. In effect, they will send a man out to "Fight the Dragon," but they insist on tying his hands behind his back. Or they will give a man a job and then stand over him to see that he does it right. In so doing, they deny that man the right to develop his own ability to carry responsibility. As an example of this we might think of a residence fire. You are the Chief and are directing—or more properly, observing—the operation of the department from the outside, where you belong. Your Assistant Chief is inside. When he comes out you ask him if the fire is out. If he says "Yes", don't ever stick your nose inside the house. It is better to be called back than to show that man that you have no confidence in him. If he repeatedly refuses to accept the responsibility of these decisions, then get yourself a new Assistant. Many of us are particularly critical of the Chief who grabs a nozzle and gets himself into the heart of the fire, defending his action with the statement that he won't send his men any place that he won't go himself. The duty of a good Chief at a fire is to observe the operations of his fire fighting organization in order to make improvements in its efficiency. He can't do this with his eyes full of smoke. If he doesn't have an organization that will function without him directing it, he is not doing his job.



Performing evolutions against time develops both skill and enthusiasm. Here volunteer firemen demonstrate teamwork in hose-laying at a firemen's convention.

The size of the department has little bearing on the efficiency and enthusiasm of its members. Good management develops pride and adeptness on the part of the personnel.

The first thing that the organizational plan must do is to make clear a definite arrangement with the governing body. These arrangements should protect the department from political uncertainties and at the same time give the governing body some control over the department. They should be so arranged as to give the Chief a free hand in running and maintaining his fire department, as long as he maintains the department's efficiency at certain standards. Our laws give the Chief complete authority once a fire has broken out, but, in some cases they insist on tying his hands behind his back up to that point.

There have been many cases where interference by the governing body has been detrimental to a fire department and perhaps just as many cases where interference is needed. To provide for this interference when needed, I quote from a suggested constitution section:

"When the recommendation for appointment of Fire Chief is sent to the Governing Body, the Acting Chief shall, at the request of the Governing Body, display the Department Attendance Records and such other records of the Department as the Governing Body shall request. If the Governing Body finds that the total attendance at regular meetings and drills for the past year has been less than 65% it may, at its discretion, order that all members with less than 80% attendance records be expelled from the Department. The head of the Governing Body shall then preside at a specially called meeting of the Department. He shall conduct an election among the remaining members of the Department for a set of officers."

Any organizational plan, decided upon, must be in written form. It should not be merely a series of oral agreements or arrangements. It should be prepared and printed in booklet form and copies made available to all parties concerned.

The Constitution should contain provisions to stress its own importance and keep it in force. It does no good to prepare a good set of rules and then put them away and forget them. The following are suggested sections to accomplish this:

"After a period of one year, a probationary member may become eligible for election to active membership, by passing to the satisfaction of the Department, at a regular meeting, an oral examination of 10 questions concerning the constitution and by-laws of the Department. On the meeting night set for installation of officers, the head of the governing body shall be present and administer the oath, affirmation or pledge of office. He shall request that each officer installed read aloud or recite

(*Continued on page* 455)

Ambulance Service by Volunteers A Rapidly Growing Activity

Proves Beneficial to the Fire Department in Many Ways; Highly Effective in Building Good Public Relations

Editor's Note: **This study of the volunteer emergency ambulance service is presented as a symposium, participated in by outstanding volunteer fire departments which operate and maintain ambulance squads, corps and companies. The study embraced approximately 100 typical organizations in the States of New York, Pennsylvania, New Jersey, Virginia, California, Oregon and Maryland.**

Selection of these states should not imply lack of interest by the many other outstanding volunteer emergency ambulance services scattered throughout the rest of the nation. Their operations parallel those of the above states in which this highly essential small town and country ambulance service got its major beginning.

The editors gratefully acknowledge the assistance of all those fire departments and ambulance organizations which so generously supplied information requested. It is regrettable that each individual report cannot be quoted herein. If, in quoting from specific replies to the questions asked, there appears to be undue emphasis on a few squads and corps, it in no way lessens the value of the information contributed by other respondents.

Special appreciation is extended to the Bureau of Fire, Division of Safety, New York State; the International Rescue and First Aid Association; The New Jersey State First Aid Council, Inc.; The International Association of Fire Chiefs; the American Hospital Association; the manufacturers of first aid and other equipment used in the emergency ambulance service.

RECENTLY a writer, A. E. Hotchner*, took American cities generally to task for what he claimed was their poor emergency ambulance service.

The author quoted figures to show that street accidents annually kill 11,700 young adults and their children, and injure 450,000 of them. And he related these figures to the problem of furnishing adequate emergency ambulance service in our cities.

The burden of his message was the regrettable delay in attending the injured, too commonly encountered in our municipalities; the lack of facilities, including ambulances; the substitution for adquate ambulances of makeshift vehicles, ill-suited for the purpose; and the lack of care and attention given casualties on the scene of accidents, and even later, when the injured are finally brought to the hospital or first aid station.

Although his review was based upon conditions as he found them in some 24 representative *cities* studied, it is quite possible to extend his conclusions into the *small town and rural areas.*

Viewed throughout the country as a whole, it is logical to assume if there is any delay and otherwise poor service in *cities,* where facilities may be presumed to exist, the situation in *town and country* areas must be immeasurably *worse.*

According to Mr. Hotchner, about 11,500,000 persons will require emergency treatment in the nation's hospitals this year. This means, he says, that every 2½ seconds around the clock every day of the year, an emergency room in some city will be receiving an injured person.

It is too bad that Mr. Hotchner's studies did not take him outside the cities and into the areas from which many of those who will require emergency treatment in these hospitals will come. Not many years ago, those victims of accidents in rural and country areas were lucky if they ever reached the big city hospital before death overtook them. Today, at least in many parts of the nation, the victim of an accident or illness gets fully as good service — in some cases even better — than does the luckless cosmopolitan told about in Mr. Hotchner's account.

For the most part, this unusual service, including the response to the call for aid; the administering of first aid, and transporting of the victim to the hospital, is given freely and cheerfullly. And it is a remarkable tribute to both the fire service, and to the voluntary emergency ambulance and first aid services of the nation.

Not all emergency ambulance services are part and parcel of the volunteer fire force. Some are entirely independent. Others are closely allied with it. However, almost without exception, the services work as a team. The most insignificant volunteer fireman overcome by smoke, or otherwise injured during fire duty, gets the same full treatment that his professional municipal brother receives from his city department's rescue and/or ambulance service.

This symposium attempts to describe the more fundamental details of this vast and growing volunteer emergency ambulance service, with particular reference to the important part played by the volunteer fire forces of the nation. The primary object of this study is to collect and provide factual material to guide those who are interested in organizing and operating an adequate and efficient emergency ambulance service.

Areas Served by Ambulances

One of the first questions asked in this survey concerned the area served by the ambulance unit.

In summing up the replies, one might quote the old saying "No pent up Utica confines our powers, the whole United States is ours." Certainly the respondents indicated that in general, there is no limit to the geographical areas covered.

A large number, located in typical small communities, reporting on this question, stated they covered "their own, and neighboring areas," or "immediate neighbors." Some said "Township"; others itemized a number of

From the G.E. Movie, "A Voice Shall Be Heard"

Accidents on the highways account for many fire department emergency ambulance calls, such as pictured in this scene in the suburbs of Syracuse, N. Y.

*"Your City Can Save More Lives," Red Book Magazine, March, 1955.

The Hopewell Emergency Crew, Hopewell, Va., in addition to carrying hospital type oxygen tent, operates this special infant tent, shown here with First Lieutenant G. G. Ketchum.

Americus Hose, Sanbury, Pa., with volunteer squad of 850 members, makes over 1500 calls a year with its three emergency ambulances. Here, Paul L. Boyer (center), Superintendent of the Ambulance League of the company, and E. English, driver (right), take delivery of one of the units.

townships. Still others spread themselves over a county; a few listed several counties served. A New Jersey outfit listed "Seven communities."

A number of respondents submitted mileage data. Thus a Pennsylvania company boasts of covering all of 156 square miles. Another sets a radius of 100 miles. And a California unit really covers the "wide open spaces," to the extent of 500 square miles.

Actually, measured by square mileage, most of the companies and departments interviewed point out that while they derive their revenue and support, and actually serve patrons within a designated area, they will, should occasion arise, travel almost any distance.

Thus a number state "local area" in answering the question as to area served, but set no limit to coverage should they be called upon. Several New Jersey, New York and Pennsylvania outfits make the point that they do not recognize state lines, in this respect.

The replies illustrate another point: Although the fire fighting units or companies of the volunteer fire department may limit response (except in cases of mutual aid) to a pre-determined territory, the ambulance unit generally has a broader application of service. Basically, if financed voluntarily by people of the same district or area who support the volunteer fire department, the scope of the ambulance company's service and clientele is likewise within that territory. However, by the very nature of its service, the ambulance unit cannot always be so restricted. It may have to haul an injured person to a specific hospital, or perform other service beyond the normal limitations of the fire department.

Reviewing the evidence, it would seem that local and area conditions, such as the number of families and persons to be served, the available hospital, and other area ambulance facilities and the availability of capable personnel to man and operate the ambulance unit, must govern the scope of the individual emergency squad or corps, whether a part of the fire department, or independent of it. We are of course speaking of the voluntary type service, not the professional ambulance service.

Financing the Purchase

An interesting detail of the study of the small town use of ambulances is that of financing the purchase, operation and maintenance of the equipment and, in many cases, the ambulance headquarters.

In the vast majority of communities and companies studied, it was found that the purchase and maintenance of the rolling stock is by means of voluntary subscriptions and/or donations, and without any direct cost to the community or inhabitants of the area served.

The only exceptions are those in which the ambulance service is a direct part of the fire department and its funds are linked with, and come from the fire department's operating budget.

In those ambulance organizations not a direct part of the fire department, and more or less independent of it, in practically every case the money to support the service comes directly or indirectly from citizens, and not from the governing body of any political subdivision. It is of course the generally accepted practice in cities to finance the ambulance service just as are other fire department units.

Considerable ingenuity is displayed by the volunteers in financing both the initial purchases of ambulances (including first aid equipment) and maintenance and upkeep.

Considering the purchase aspects, here are data from representative ambulance units, from Oregon and California to Maine.

Well over two-thirds of the respondents report their purchases are financed by public donations and/or contributions.

A few of those queried break down the contributions received into such classifications as *"Funds raised at festivals"*; *"Fund drives"*; *"Public subscription"*; *"Donations from residents and tourists"*; etc. A few simply stated *"Company funds"* as the source of income, but it was learned that these funds originally came from the public through donations. Some stated that the money was derived from *"Suppers, card parties and donations."* Others emphasized the direct solicitation approach, pointing out that the initial funds were secured by going out after them. A number conduct annual house to house solicitations.

Several respondents stated the funds were raised through bond issues. One New Jersey organization was financed through *"The First National Bank"* and paid off with donations of the townspeople. Another got its start *"Through Private Loan."* And a number of respondents reported that either ambulance or equipment, or both, were the gift of service clubs of the area or community. As an example a Nebraska outfit proudly credited the Ak-Sar-Ben service organization for its facilities.

Another interesting source was given by a Virginia organization as *"Community Chest."* A Long Island, N. Y., ambulance company indicated *"Fire District Taxation"* as its source of revenue; several others mentioned *"taxation"* in one form or another as wells of revenue for ambulance purchases.

Financing Maintenance and Upkeep

There is more to maintaining an ambulance service than meets the eye. Besides the necessity of maintaining suitable housing, it costs money to keep the vehicle in safe, efficient running condition. And there are always improvements to make in the equipment carried by the unit. If anyone doubts this, let him compare the accouterments of the modern streamlined ambulance with the vehicle of a decade ago.

In the field covered by this study, maintenance and upkeep are generally financed by the same methods employed in the purchase of the ambulance itself, and most of its fittings; that is, by public and private contributions and donations.

Annual drives and other fund-raising activities are reported sufficient to pay at least a share of the upkeep cost. Other revenue may come from the tax rolls, civic budgets of communities served, including, of course, the fire department budget.

A number of ambulance units are supported financially by means of the Community Chest. Still more of them derive funds from membership plans, whereby a small annual fee, or dues, is charged against those who subscribe. Still other organizations secure revenue from charges made to non-members of the groups for services rendered, or to be rendered.

One of the outstanding organizations among fire department ambulance services is Fame Fire Company No. 1. Its Ambulance Division, organized in Lew-

(Continued on page 430)

Overhaul and Salvage—In Theory and Practice

Part III—The History of Salvage as Related to the Fire Service; Formation of and Trends in Salvage Fire Patrols and Corps

By ROI B. WOOLLEY
Assistant Editor, FIRE ENGINEERNG

Editor's Note: **The preceding two chapters of this series dealt with the subject of overhaul and its relation to salvage. In this installment the author takes up the subject of salvage in the fire service and those who perform it.**

The text on these important topics has long been in the making. Over half a century ago FIRE ENGINEERING was advocating the import of these fundamentals to good firemanship. And it was largely as a result of this promotion that salvage and overhaul were added to the three other cardinal essentials of good firefighting: (1) Locate; (2) Control and (3) Extinguish the fire.

This Journal was the first to publicize the operations of the nation's salvage services; through these editorial pages the early and sincere, capable students in the field of salvage—men like Chiefs William Gardner of Kansas City; Frank McAuliffe of Chicago, James Keegan of Newark; William Espey and John Cashman of New York and others imparted their knowledge, experience and beliefs on the subjects to the fire services of the world.

Through the years, this Journal has chronicled the rise and decline of the fire insurance patrols, and the emergence of the municipal fire departments into the field of fire salvage operation.

Notwithstanding the excellent material on salvage published by FIRE ENGINEERING; the National Board of Fire Underwriters; the International Association of Fire Chiefs and the National Fire Protection Association, there is lacking any comprehensive single text which treats of both overhauling and salvage in all their ramifications.

It is hoped that this series of chapters will fill that need. In its preparation, the author acknowledges the assistance of the beforementioned individuals, together with the associations named. Also, special appreciation is extended to Chief Joseph Scanlon, Superintendent, New York Fire Patrol, for much basic material. Also to the author and publishers of "As You Pass By"; the "Insurance Advocate"; "W.N.Y.F." of the New York Fire Department; the "Fire Chiefs Handbook," by Fred Shepperd; "Fire Fighting," by former Chief John Kenlon; "100 Years of Insurance," by Hall and Jordon, and articles, records and other data too numerous to mention.

THE word "salvage" comes to us from the old French and means "to save." It was early applied to the saving of property from loss at sea. It has a technical connotation when it refers to the compensation allowed to those who effect a saving in property.

With the creation of special agencies devoted to the saving of property, whether from loss ashore or at sea, the word "salvage" was almost immediately applied to such agencies. Hence we have the term "salvage corps." In this country the more common appellation is "fire patrol."

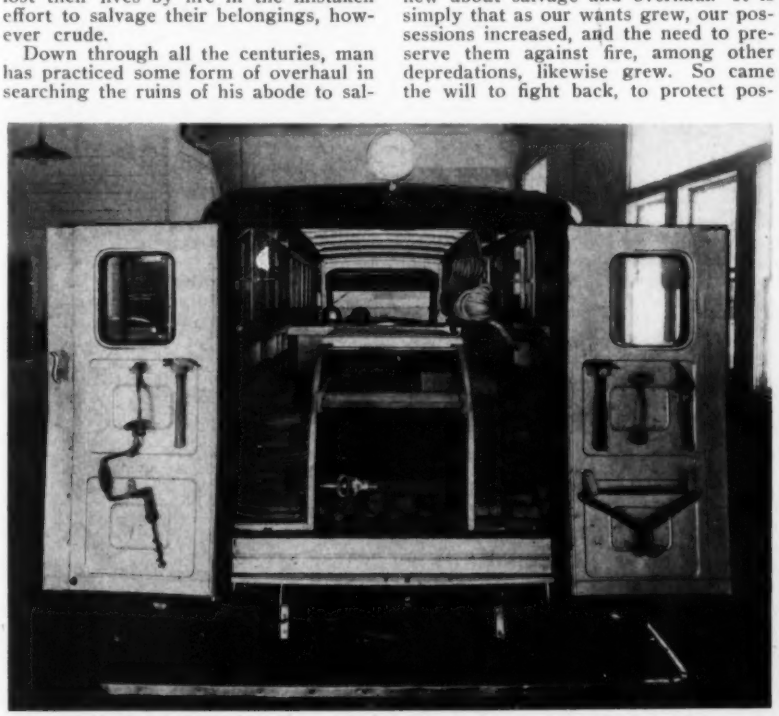
As is told later on, the origin of the term "patrol" is doubtless due to the fact that when such bodies were first organized, the members did actually patrol the areas to which they were assigned. Today this patrol work is no longer done.

Viewed in the light of the foregoing connotations, salvage as related to destruction by fire was doubtless practiced before man developed any comprehensive plan or procedure to control and extinguish "unfriendly" fire. It is a natural instinct to try to save one's possessions in time of fire, robbery or other depredation. And it is that inclination, translated into action, which has cost so many lives down through the years. Even today, with all our boasted intelligence and education, our knowledge of, and fear of, fire, the instinct to salvage prized possessions has cost the lives of countless persons, old and young, who foolishly and tragically reentered burning buildings from which previously they had escaped.

Doubtless primitive man, whose prized possession was his "homemade" war club "salvaged" this from his cave dwelling, when fire threatened. Doubtless some of these primitive men, too, lost their lives by fire in the mistaken effort to salvage their belongings, however crude.

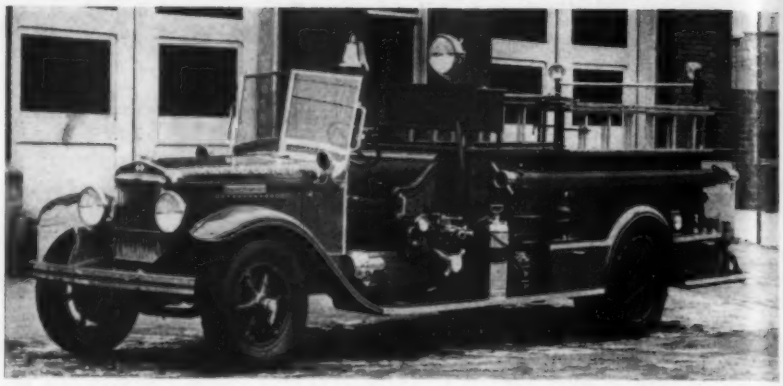
Down through all the centuries, man has practiced some form of overhaul in searching the ruins of his abode to salvage what still might prove serviceable.

Therefore there is nothing relatively new about salvage and overhaul. It is simply that as our wants grew, our possessions increased, and the need to preserve them against fire, among other depredations, likewise grew. So came the will to fight back, to protect pos-



This closed-body squad car went into service in Stillwater, Okla., about 1933. In addition to 12 salvage covers, it carried hose, a 20 gpm pump, 300 gallon booster tank, salvage equipment, forcible entry tools, ladders and portable extinguishers. Note the supply of coat hangers (lower right), which often facilitate salvage operations.

Fire patrolmen of the 90's carry covers into burning store. The theory, and much of the practice of protecting valuable property by means of waterproof tarpaulins hasn't changed fundamentally in fifty years, as this picture from C. T. Hill's book, "Fighting a Fire," would seem to indicate.



Said to be the smallest city to have a paid fire department at the time, Mason City had a complete salvage company in 1935. The steel body was compartmentized to carry 12 salvage covers, roof paper, bundles of lath, sacks of nails, tools, etc. Other space held drain covers, sprinkler heads, plugs, etc. Rig carried 500 feet of 2½-inch and 400 feet of 1½-inch hose, 100 gallon booster tank and hose, and had 350 gpm pump. Additional stock covers, tools and fittings, lifelines and masks were carried.

sessions and resources through controlling and subduing fire. As fire risks multiplied, fire fighting increased in importance, and with it the need of salvage.

Salvage, as we pointed out in an earlier chapter on "Overhaul," is today an established requisite of fire suppression and extinguishing operations. As we shall see later on in our study, salvage not only means to "rescue property from fire itself," but it includes preserving and rescuing property from other vicissitudes incident to fire extinguishing.

At the outset, therefore, salvage must be viewed and studied in its broadest sense, not merely as something that *follows* fire control and extinguishment, but an activity that is inherent with it, and, in a measure precedes fire itself, by anticipating it and taking the necessary steps to preserve property against the threat of fire.

Salvage, in its relation to fire in this country and the operation of fire patrols and salvage corps by insurance companies, is an inheritance from England, the birthplace of insurance.

Although there were abortive attempts to insure against fire, dating back almost to the Roman Empire, organized efforts to insure property got their start following the great fire of London in 1666, which burned over 435 acres and destroyed over 85 per cent of the buildings, with a loss of about ten million pounds. This conflagration advertised graphically and tragically the need of protecting individuals against loss by fire. At the same time it raised the question of the salvaging of property.

After some years of varying effort to establish that protection, there came into being the first of the mutual insurance associations, the Friendly Society; its device was a sheath of arrows. There ensued bitter rivalry between it and the "Old Phoenix" which was all that was left of the "Phoenix Office"—said to be the first "fire insurance office" and which was originally called the "Fire Office," the symbol of which was a phoenix amid the flames.

In 1688, underwriting no longer required a special license and, in 1696, a new form of mutual insurance was started by an organization which had many names during the ensuing century, among them the "Amicable Contributionship," but since 1776 has been known as the Hand-in-Hand Company, deriving its name from the device of interclasped hands, which from the beginning it had used as its emblem on all the buildings it insured.

Up to the dawn of the 18th century, insurance on stores, dwellings or other buildings had covered only the structures themselves, and not the contents. In 1704, "Lombard House" was organized for the insurance among other things of household and business goods.

This was the first company to enter this broadened field, as it was also the first to institute a salvage corps, for the rescue and saving of goods at fires.

How this "corps" operated, and how it succeeded, if indeed it did, has not been clearly recorded. We do know, however, that fire insurance as a business was still in its infancy when it was transplanted to America. The first company of which we have record was started in 1752, in Philadelphia. It bore the long, cumbersome name of "The Philadelphia Contributionship for the Insurance of Houses from Loss by Fire." Benjamin Franklin was one of its most enthusiastic supporters (it will be remembered that Ben also was one who gave thought to fire fighting). It adopted the name, plan, seal and badge of its London counterpart, the "Hand-in-Hand"—four hands clasped.

In 1783, the company passed a by-law refusing to insure houses surrounded by shade trees, on the ground that the trees impeded the putting out of a fire. This stand roused opposition, and the organization of a new company known as "Mutual Assurance," whose housemark was a green tree, made of lead, fastened to a shield which was affixed on all houses it insured.

In 1770 an attempt was made to organize an insurance company in New York City. It languished, however, and the first such company there was founded 17 years later as the Mutual Insurance Company. In 1878, the same year, the New York Insurance Company also was started.

The first effort to form regular companies, with salvage corps and patrols, in this country, began in the middle of the 18th century, the era of the Hand-in-Hand and the "Heart-to-Heart" Fire Companies.

The oldest known record of the latter is said to be in the form of a notice to Lord Stirling of a meeting at City Arms Tavern, March 3, 1762, signed by Isaac Roosevelt. On April 8, 1781, the Friendly Union Fire Company was formed and this also had an impact upon salvage.

These companies were the first to make it a practice to aid in the removing and securing of personal property at fires. They were manned by volunteers equipped only with the hand salvaging tools, plus stout linen bags with which to carry the property to be removed and protected. A mark of membership in these groups was a round leather hat with black brim and white crown upon which were painted the insignia of the company.

It is said these members were to be exempt from the usual bucket lines or pumping the engines of the regular fire companies. They were also to be freed of military duty.

In 1803 came the organization of the Mutual Assistance Bag Company which, with the Heart-to-Heart and Friendly Union were predecessors of the present Fire Patrol.

The New York Fire Patrol, which has been so intimately related to the history of the New York Board of Fire Underwriters, appears to have had its origin in this picturesque Mutual Assistance Bag Company. At the time of its organization, it had 65 members. The insignia on the round, black brimmed hat were the letters "M.A."

The "bag" apparently was the first comprehensive salvage "tool." It was of sheeting made of linen, or some other equally stout and serviceable cloth and measured three feet long and two feet wide. The regulations prescribed their duties as follows:

"Upon an alarm of fire every member with his hat and bags shall repair to the house or store most in danger belonging

to any of the Company, and endeavor, to the utmost of his power, to save their effects by carefully conveying them to some suitable and proper place and to prevent the embezzlement of the same, and in case no such house or store belonging to the Company be in danger, then each member shall give his assistance where he deems it proper."

When the Bowery Theatre caught fire on September 22, 1836, and was destroyed in less than thirty minutes, "Old Matt" Carey conceived the idea of covering adjacent buildings and exposed property with wet mats, carpets, blankets, etc. Matt's ingenious plan, which reportedly saved adjoining buildings, was the forerunner of using covers to protect property by the Fire Patrol.

A paid Fire Patrol Company was organized in New York late in 1839 although four years earlier, in 1835, the Association of Fire Insurance Companies, which succeeded the Salamander Society in 1819, employed four men at $250 a year each "whose duty it was to attend all fires and protect the interests of the Fire Underwriters by preserving property exposed to fire and damage thereto by water."

One of the first attempts to perform salvage work to come to the notice of historians was during the fire at Smith's tea warehouse, in Water Street, New York City in 1839.

In November, 1839, the Association employed 40 men as a Fire Police force who nightly patrolled the mercantile district. These men were volunteer firemen or ex-firemen because the Underwriters recognized the advisability of manning the patrol with men who had been trained to fight fire.

Improvements were gradual in the field of salvage patrols and corps as they were in the art and science of fire fighting. About 1845, improved salvage covers were purchased to better protect merchandise.

History records that in 1851 some ten skylight and roof covers were acquired, but by what company is not related. The next year, in 1851, what may be said to have been the first actual Patrol Company having a patrol vehicle, was installed in Dutch Street near Fulton, Manhattan. It was known as Company No. 1, and later was moved to 41 Murray Street in downtown Manhattan.

The vehicle operated by this company has gone down in history. It was a small, hand-drawn wagon, very similar to the type of cart in use at that time by pie bakers. Hence it became known as the "Pie Wagon." Later the term "Pie Plates" was given the large metal and leather badges the Patrol men wore. The little rig carried six covers and six buckets and four brooms, and was kept in the Dutch Street headquarters. During the day, the wagon was stored on the top floor, but promptly at 7:00 P.M. each evening it was lowered to the street where it remained, unless in service at a fire, until 5:00 o'clock in the morning, when it was hoisted to its roost under the roof. In those days, and for many years to come, the Patrol worked only at night.

The Company was divided into two shifts, or sections, which went on duty alternate nights.

In 1855, Patrol Company No. 2 was organized and located near the Center Market Bell Tower on Marion Street. Its location later was shifted to Elm Street.

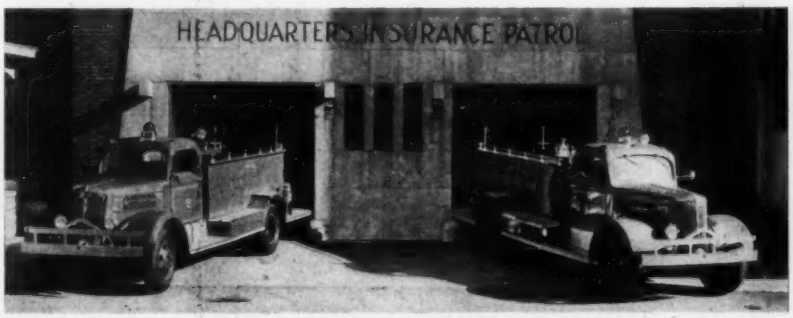
Members of the first Fire Police force employed by the Association, in 1939, were dubbed "Red Heads" because of their red leather fire hats. The red fire hat, incidentally, has come to signalize the Fire Patrolmen, ever since.

One of the first officers of the New York Patrol to receive publicity was John Cornwall, who became captain of the Patrol in 1854. He had been a volunteer fireman with Hook and Ladder 4. He succeeded the Patrol's first Superintendent, Alfred W. Carson, and he is credited with being the first to urge the use of horses to haul the heavier patrol wagons. It is said that to demonstrate his contention, he supplied teams of horses at his own expense for two months. The result was that the Fire Patrol was equipped with horses some years before the paid fire department.

A number of other features are associated with the Patrol's growth. The earliest Patrol houses were equipped with a special chute down which the drivers could slide into the seats of the vehicles from the bunk rooms above, while the rest of the men used the brass poles (said to be in use at that time) or the stairways. One of these chutes re-

(*Continued on page* 444)

Put in service in 1953, this modern utility unit of the New York Fire Patrol is equipped for lighting, dewatering, towing as well as normal salvage operations. Note crane in rear of chassis. This was the first of 14 patrol vehicles to have puncture-proof inner tubes (of all fire department vehicles, salvage patrols have to take about the worst beatings).



Fire patrols may be going out in some cities but not Kansas City, Mo., which a short time ago replaced outmoded units with these salvage trucks designed by Chief W. H. Gardner. They carry latest signal devices as well as complete salvage facilities.

One of the two salvage vans of the Melbourne, Australia, Fire Brigade in service in 1942. Note the four compartments given over to salvage covers, and other space for pails, lights and various other salvage facilities.

City of 750,000 Population,
And No Water Supply, Uses

Two Tankers With Every Pumper

By JOHN S. HARRIS
Master Sergeant, Headquarters, Korean Communications Zone

THE United States Army Corps of Engineers has a fire fighting group in Pusan, Korea, capable of providing fire protection for a large sized municipality in the United States.

Operating as a separate Army unit, the fire department is designated as the 8075th Army Unit Fire Fighting Company. It is a unit of the Korean Communications Zone, which recently moved its headquarters from Taegu to Pusan.

A versatile organization, coping with many problems principally incident to its location in this Oriental city, the fire company has proved its mettle and its fire fighting prowess many times.

One of its paramount problems is Pusan itself. Normally a city of approximately 100,000 people, Pusan today is a sprawling waterfront town housing well over 750,000 people. Refugees constitute 75 per cent of Pusan's Korean population and these people are housed in more than 25,000 shacks thrown up wherever space can be found. The civilian population is augmented by that of the United Nations.

The United States Army has thousands of acres in open storage along Pusan's waterfront and, in addition, has vast stockpiles of military equipment, clothing, food, and other items stored in permanent type warehouses and quonsets. Pusan harbor is a teeming activity of arriving and departing freighters and troopships and there are an untold number of Korean houseboats of every description hugging the fringe of the harbor. The entire city is a gigantic tinderbox. As a tremendous firetrap, it probably has no equal anywhere in the world. A history of shoddy construction in Korea is prevalent in Pusan and has added greatly to the ever present fire danger.

U.S. Army Photo
Fireboat, improvised from landing craft, serves well in the shallow harbor of Pusan.

U.S. Army Photo
Fire engine of the 8075th Engineer Fire Fighting Co. (Station No. 1) complete with all equipment.

In order for the company to reach the scene of a fire within five minutes after receiving an alarm, Pusan is divided into sections; each of the areas is under the supervision of a Noncommissioned Officer fire chief. The company has ten fire stations located in the city proper and, in addition, there are five others located in outlying sections, including Heunde, Masan and Osan. There are many Army installations in each of these latter localities.

Through a close knit operation based upon experience, the department can muster, if necessary, 104 pieces of rolling fire fighting equipment at the scene of a fire anywhere in Pusan within a very few minutes.

Because of the absence of water mains in Pusan, the procurement of water is a problem not only for fire fighting and other uses, but also for human consumption. The fire department utilizes water tankers on a ratio of *two tankers* per *one fire engine*. There are sixty such tankers available and each water conveyor has 1,000 gallons capacity. If the scene of a fire is not near an engineer water point in Pusan, the department has to rely solely on these tankers and there is an emergency set-up so that the sixty tankers can be called into play if necessary. If a fire is near the harbor, and this has happened many times, the department has three fire boats it can use to relay water from the ocean through the fire engines where it is put into hose under pressure. This measure has failed at times because of shallow water in the harbor which has prevented operation of the fire boats. To circumvent this problem, the department has devised a means of stretching hose from the shoreline to the boats without any appreciable loss in the water supply.

In manpower, the fire department has over 350 men, the largest majority of which are trained and experienced firemen. Over 100 of the firemen are Republic of Korea soldiers (KATUSA) attached to the United States Army. There are approximately 125 U. S. enlisted men, and 150 Korean Nationals. Five American Corps of Engineer officers complete the department's complement of trained personnel.

Along with answering numerous fire calls, some of them large scale conflagrations, the department conducts daily classes in fire fighting and prevention. Since the men live in the stations, this is easily accomplished with on-the-spot instruction. Fire fighting practices and prevention measures are taught in the classes.

All of the rolling equipment, with the

exception of the tankers, is radio controlled. Jeeps used by the fire captains are dispatched to the scene of a fire much as a fire chief's car in the United States. If additional equipment is needed to combat a blaze, a call can be sent in to the main station which is located on the Army's Main Supply Route in Pusan. The Army maintains around the clock fire watches in all military installations. Fire alarms are given by telephone to three military numbers also located in the main station. If the need arises, the calls can be relayed by radio to the other stations which dot the Pusan area.

It is exceedingly rare when a day passes that the department does not have a call to speed to the scene of a fire in Pusan or in the outlying areas. For the period beginning July 1 of last year and ending December 31, the unit answered over 400 calls. The breakdown of alarms was as follows: 61 United Nations; 118 Korean, and 126 false alarms. Of the false alarms, 22 of them were of Korean origin and there were 42 fires which had been put out on arrival of the fire teams.

Several bad fires have resulted in Korea as a result of leaks in gasoline pipe lines maintained by the Army. Pilferage of gasoline by Koreans, who were also careless with fire, has caused a number of fires. Ordinary leaks in the lines have precipitated fires and the department in Pusan has had to answer such calls. During the six month period mentioned above, there were 36 gas leak alarms. Two rescues were made by life saving and first aid personnel who accompany the fire teams on every call.

It is estimated that the department has among its vast array of fire fighting equipment, approximately six miles of hose. It also has extensive ladder equipment, including a 36-foot mounted ladder which is stationed near the 21st Station Hospital. Because there are not many two-story buildings in Pusan, most of the ladder equipment is in 24 and 36-foot lengths. The department has access to engineer heavy earth moving equipment for the preparing of fire breaks should the need arise. The fire engines, or pumpers as they are sometimes called, are specially designed Corps of Engineers overseas fire equipment. They were designed in the United States.

The department operates its own motor pool, where skilled soldier mechanics keep the equipment in constant readiness for instant use. A continuing check is maintained on all equipment and the shops are fitted to perform 3rd echelon maintenance in most every case when it is necessary.

U.S. Army Photo

Large capacity tankers prove a vital part of Army Fire Department at Pusan. There are approximately two tankers for each pumper.

Closely clustered huts in Korean cities fall easy victim to flames once fire starts.

Maine Keeps Explosives Trucks Under Surveillance

The State of Maine's dozen fire inspectors ride herd on explosives trucks, last year rolling up 20,266 miles shepherding their charges over Maine's roads.

According to Joseph A. P. Flynn, director of the fire prevention bureau in the State Insurance Department, Maine is the only state requiring, as a safety measure, that explosives always be escorted over its highways.

Mr. Flynn gets 12 hours notice of the scheduled arrival at the Maine border of all trucks entering the State with dynamite or ammunition for the big air bases in Aroostook County, and for the construction jobs like the Maine Turnpike Extension. With the step-up in defense, Flynn and his men are getting more and more "ammo" jobs—60 tons so far this year compared with 55 tons in all for 1954.

Last year's total tonnage, escorted by the fire inspectors, was over 1,000 tons or 2,142,130 pounds, to be exact. And in the five years that the Maine inspectors have been riding escort to the big red explosives trucks, bearing red flags and flashing red lights, there never has been an explosion. The nearest they ever came to it was when a dynamite truck caught fire near Lewiston. Fortunately, the inspectors had quick help from the Lewiston Fire Department and put the fire out before it reached the truck body.

But this good record hasn't made the inspectors careless. The first thing they do on picking up an explosives truck or trucks, is to check the tires, brakes, lights, mechanical equipment and stowage of the cargo. Nor is the driver of the vehicle overlooked.

Although there's no danger from dynamite if its properly stowed, according to Flynn, there is big hazard in fire. So, before starting out, each inspector takes from the truck drivers all cigarettes or matches—just in case.

Another precaution is to check the tires every two hours, or oftener. With dual wheels one tire may go flat without the driver realizing it, as the other one will hold up the load alone. But friction can set fire to the flat tire.

Four of the blow-ups on ammunition trucks in other states in 1953 were caused by flat tires that set the truck or trailer abloze.

According to Flynn most of the drivers are very cooperative, "but occasionally," he said, "we run across a 'cowboy'." Once Flynn encountered a driver who was a lot more dangerous than a "cowboy."

"I was escorting this truck myself," said Flynn, "and noticed that the driver was stopping pretty often. So I got out of my car and asked him why. " 'Oh, he told me,' " 'I'm a diabetic and have to stop and take my insulin'."

When the I. C. C. had Flynn's report of this incidept, the driver was ruled off the road.

Convoying explosives trucks is a slow job. The vehicles are kept down to 35 miles an hour, paced by an inspector riding 150 feet ahead. If there are more than one truck in the convoy, the units are kept 500 feet apart, and another inspector rides behind. Insofar as possible the explosives convoys avoid cities and towns altogether. They generally use back roads, traveling at night as much as possible to avoid traffic.

OHIO LAUNCHES SUCCESSFUL FARM FIRE INSPECTION PROGRAM

Other States Join Move Inspired by Farm Bureau Insurance Companies and Volunteers

A Special Report to FIRE ENGINEERING

Editor's Note: This is a special report of a venture that panned out, and is paying dividends; of faith in an idea, and in the men to carry it out; and of a program of fire prevention launched in a field hitherto practically unexplored—the rural and farm area.

Harry Pontious is Director of Safety of the Farm Bureau Insurance Companies. He long has been cognizant of the growing hazards and expansion in the rural areas, and of the need of preventing fires in these areas as well as in the urban areas. And he has had the firm conviction that one way to bring this about was by means of farm inspections.

So firm was this conviction, that Mr. Pontious offered the services of one of his staff experts, L. E. Shingledecker, a specialist in fire safety, for one year for the purpose of developing and proving or disproving the possibilities of the inspection approach through members of volunteer fire departments.

The Ohio Rural Fire Safety Committee accepted the offer, and Mr. Shingledecker devoted three months to travel, studying conditions and contacting leaders throughout the United States in preparation of the Rural Fire Safety Survey Program.

Mr. Shingledecker's 7-point Program was accepted by the Committee, a group comprising representatives from stock and mutual insurance companies, the Ohio Fire Marshal's Office, the Inspection Bureau, State fire organization and interested farm groups.

His services went with the Program, which was launched as pilot project in Ohio. Success of initial efforts encouraged the Ohio State Fire Marshal to employ a full-time man to carry forward the activity. Its acceptance in Ohio led to its adoption in Pennsylvania, North Carolina and West Virginia.

In publishing this report, the editors gratefully acknowledged the assistance of Mr. Pontious and Mr. Shingledecker and the Ohio Farm Bureau Insurance Companies; the encouragement of the Ohio Rural Fire Safety Committee and the Ohio Fire Marshal's Office in the enterprise; also, the follow-through Program developed by the foregoing in cooperation with the Greene County Firemen's Association, known as the "Year Round Activity Program."

NO ONE has a mortgage on fire prevention. It should be practiced wherever fire threatens the lives and property of people but, unfortunately, in the past, it has not been so practiced, at least in most of the nation's rural and farm areas.

It is no secret that farm fire losses have been holding up generally throughout the country, in some places showing persistent gains. It is no secret, also, that farm fire hazards have been increasing with modern farming, the introduction of machinery, bottled gas, electricity, storages of gasoline and other volatiles. Nor is it any secret that volunteers who, for the most part, do our rural fire fighting, have been, and are, faced with other serious handicaps in suppressing farm fires—handicaps in communications, location identification, water supplies, personnel and, worst of all, perhaps, finances.

This situation has been known to many fire prevention and protection engineers for some years. But thus far there have been few comprehensive efforts to hurdle the handicaps and to come up with a program tailored to fit the particular problems. Mailing the farmer the orthodox impersonal fire prevention bulletins and other literature, while helpful, has constituted no real warning. To succeed on the farm, as in the city, the warning must be personalized, brought right to the attention of each property owner, and tenant, and related to his own property.

This means, personal contact, which, in turn, calls for personal inspection service by members of the local fire department, preferably on a broad scale, such as throughout an entire township at a time.

Acting upon this premise, the Ohio Rural Fire Safety Committee set out to develop a program having for its chief objectives, farm inspections by local volunteer fire departments, so that existing fire hazards could be pointed out to the farmer first hand, together with recommended ways of eliminating them or, if this could not be done, of minimizing and containing them. Another important and related objective was to familiarize firemen with the farm, its hazards and its potential fire protection.

Fireman Cooley, of the Cedarville Volunteer Fire Department, finds defectively-grounded lightning rod during a farm inspection.

The rural fire poses a severe problem—especially where water supply is deficient.

All-too-often it happens that the volunteers never have an opportunity to learn about farm hazards, for instance where gasoline is stored, and where emergency water supplies are located, and other essentials that might give them a fast start in attacking a fire, until they are called to face a rip-roaring blaze.

A key figure in the developing program eventually adopted by the Ohio Rural Fire Safety Committee is L. E. Shingledecker, an industrial safety man, and organizer of the Ohio Fire Brigade

The Rural Fire Protection Planning Committee (left to right): Bud Warner, Fire Chief, Fairborn Fire Department and past President of the Greene County Firemen's Association; James Hoover, Fire Chief, Knollwood Fire Department and President of the Greene County Firemen's Association; Bob Porter, a representative of the Yellow Springs Fire Department and L. E. Shingledecker, Supervisor of Fire Safety, Farm Bureau Mutual Insurance Companies.

Association. His services were gladly given by the Farm Bureau Insurance Companies headed by Harry Pontious, another prominent figure in fire prevention. Choice of Shingledecker was explained on the grounds that modern farming has taken on the material aspects of small industry.

Shingledecker was given a year and a minimum of three completed survey programs to prove the worth of the Rural Fire Safety Survey. The response to his first call for pilot townships in Ohio was so great that he completed 27 survey programs in his given year.

The Fire Safety Program as finally accepted was threefold. It covered prevention, protection and education. Featured in the protection approach was a simple file card, on which information would be kept for the purpose of enabling the fire departments concerned to do a better job of fire fighting. A leading factor in the prevention approach was a survey sheet, which was used for finding and pointing out hazards, with suggestions on how to correct, or to live with the hazards. The educational phase would include preparing the volunteer fire departments on the best procedures for conducting the survey.

The seven fundamentals to be considered in the approach to the Program were as follows:

a. The Program should be presented at a county association meeting at which time it would be explained, and interested parties invited to contact Mr. Shingledecker for further information.

b. Mr. Shingledecker would appear before individual departments again, explaining the program and gaining from them definite information concerning their desire to participate; he would emphasize the fact that it is a department project and that 75% of the membership must participate.

c. An instruction night would be conducted, preceding the kick-off of the Program, at which time the members participating would receive additional training in the proper approach to follow in making the survey.

d. A Planning Committee would be selected by the fire department, normally consisting of the Chief, President and four other members. This committee would develop the pattern that their department intended to follow in conducting the survey, with Shingledecker acting in an advisory capacity.

e. A kick-off date, and a deadline date would be selected for starting and completing the Program.

f. Three days preceding the kick-off, publicity would be released to the newspapers, radio and TV stations, announcing the public service that was to be rendered by the individual volunteer fire departments.

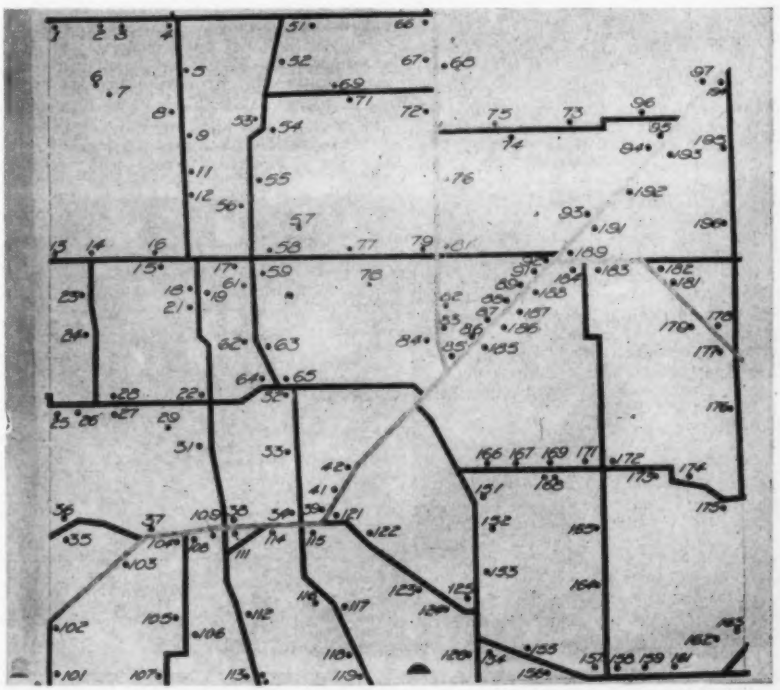
g. After completion of the Program, the material would be accumulated, duplicate file cards made, and the information would be studied for further use in promoting fire prevention activities in the community.

This was the 7-step program which the Ohio Rural Fire Safety Committee accepted, and which was launched in pilot areas in Ohio, and eventually lapped over into West Virginia and Pennsylvania. And it is still lapping!

Most of the facts unearthed by Shingledecker are pretty generally known among firemen serving rural areas. But only a small percentage of fire departments made any serious attempt to use the information they possessed. For example, only about 10 per cent of the volunteer fire departments contacted by Shingledecker had a card-file system which listed the vital information needed by firemen in fighting a farm fire.

In the field of fire prevention, Shingledecker found that seemingly far-sighted preventive measures had gone woefully awry. Many lightning rods were ungrounded, inviting instead of preventing fire; fuse boxes were overloaded with milkers, hammer mills, power tools, new household appliances. There were leaking fire extinguishers, and many extinguishers of the wrong type to combat the type of fire most likely to occur in that area of the farm.

It was surprising how little truly basic information was found available for firemen in some areas. Data on such simple things as the most direct route to the farm from the firehouse; location of the nearest water supplies, etc., were either not in evidence, or if so, were in many cases badly garbled and not easily understandable. In Shingledecker's Pro-



Typical district map showing all property locations. This map is in Centerburg V. F. D. firehouse.

Ohio Rural Fire Safety Committee in session.

gram, file cards made collecting and recording such data easy. One set of file cards was planned to ride the truck, and the other to remain in the firehouse.

Roads and farms were given numbers so that a farmer reporting a fire had only to read off the location as it was written on a telephone sticker, supplied by the volunteer fire department; a master map in the firehouse identified the location, such as "Farm 10, Road 3," and the most direct route to it. Old stuff? It would seem so, but it is surprising how few rural fire departments have adopted these simple fundamentals to successful rural fire prevention and protection.

The Program's educational value works two ways, on the farmer and on the fireman, with profit to both.

The Follow-Through Program

A follow-through program has been completed and tried on an experimental basis in Greene County, Ohio, with 17 volunteer fire departments participating. The net result was the conviction that a year-round "packet program" could be conducted if the material was made available and presented properly to the volunteer fire departments.

This "Year-Round Activity" effort had two purposes:

1. To keep the volunteer fire departments active in the prevention field without placing too large a burden on the departments or their members.

2. To keep fire prevention before the public and in the minds of volunteer fire department members on a monthly basis rather than on a once-a-year basis.

The idea was to undertake a small project of the complete program each month. It might concern a seasonal hazard, or a seasonal operation. Listed below is an example of a 10 month program:

JANUARY—Conduct fire safety programs in conjunction with youth groups in their areas, such as Boy Scouts, FFA, Granges, etc.

FEBRUARY—Inspect churches.

MARCH—Inspect gasoline stations.

APRIL—Inspect business and mercantile locations in the rural area.

MAY—Inspect mills and elevators.

JUNE—Check further on rural fire safety card index systems and bring up-to-date.

JULY or AUGUST—Each department to actively participate in some manner in their County Fair for the purpose of acquainting county residents with their organizations.

SEPTEMBER—Inspect country schools and conduct fire drills therein.

OCTOBER—Use material prepared for the purpose of developing talks before safety groups and others in their areas.

NOVEMBER—Pass out material pertaining to brooder lamps, lightning rods, electric and TV installations.

DECEMBER—Pass out material pertaining to Christmas safety.

Final reports on the trial program, as outlined are encouraging. Every department participating in the project stated that in their areas the number of fires shows a reduction from previous years. Also, the dollars-and-cents fire loss is smaller in their areas than ever before.

Ten departments stated they definitely felt that the Rural Fire Safety Survey Program and the Year-Round Activity Program were responsible for the above results. Six departments reported they thought these two programs influenced the results. One department did not state one way or the other.

Etobicoke Department to Be Reorganized

Due to the continuous growth of Etobicoke Township, Ontario, Canada, the council recently accepted the recommendation of the Ontario Fire Marshal's Department W. J. Scott and E. F. Bevis, Chief of Fire Services of the Ontario Fire Marshal's Department, to re-organize the Etobicoke Fire Department. The plan has been approved for immediate action and, under this new plan, there will be 100 full time firemen at three fire stations: Royal York Road, Islington Fire Station and the new station at Rexdale.

The first full time firemen for the township department were appointed in the spring of 1953, previous to the opening of the Royal York Road Fire Station, when 18 permanent men were taken on. This number has been doubled under the two platoon system, making 36 men, and the same number of men will operate from the new Rexdale station, which is expected to be ready for opening in a few weeks time.

The Islington station, located on Dundas St. W., will be renovated and staffed as soon as possible with 16 full time men. With fire alarm operators and fire prevention officers, this will bring the department man power up to the 100 mark.

The four remaining volunteer stations, Kingsway-Lambton, Thistletown, Humber Bay and Alderwood, will each have 16 men in two platoons for a total of 64 volunteers, making the total manpower of the department 164.

JOHN KARL LEE

March Fire Loss

Estimated fire losses in the United States during March amounted to $88,197,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $88,197,000 loss represents an increase of 4 per cent from losses of $84,821,000 reported for March, 1954, and an increase of 3.7 per cent from losses of $85,046,000 for last February, (1955).

Losses for the first quarter of 1955 now total $248,508,000, a decrease of .07 per cent over the first three months of 1954, when they amounted to $250,242,000.

These estimated insured losses include an allowance for uninsured and unreported losses.

Name_____ Road Name_____ Property No._____

No. in Family: Adults_____ Children_____ Invalids_____ Telephone No._____

Amount of Machinery Available: Autos_____ Tractors_____ Trucks_____

Where Stored_____

Flammable Liquids Amounts: Gas_____ Fuel Oil_____ Kerosene_____

Where Stored_____

Type of Container Used_____

Is Liquified Gas Used: Yes_____ No_____ Shut Off Location_____

Where are Bottles Stored_____

Location of Master Switch_____

Location of Attic Entrance_____

Additional Water Supply: Well_____ Cistern_____ Creek_____ Ponds_____ Fire Extinguishers_____

Location of Each_____

Special Hazards_____

No. Buildings for Emergency Use_____

Remarks:_____

PRL 116

File card catalogs Ohio rural hazards and fire protection fundamentals.

VOLUNTEERS AND PAID FIREMEN TEAM UP TO CHECK BLAZE

Half-Million-Dollar Church Gutted by Threatening Fire

THE difficulties faced by a small town department in battling a fire of major proportions, and the job accomplished by well-trained men, both professional and volunteer, were demonstrated in Athens, Ohio, the morning of February 5th, 1955, when fire destroyed the First Methodist Church, and seriously threatened five nearby homes.

Fire was discovered in the 48-year-old brick and wood building about 1:35 a.m. by two city policemen in this southeastern Ohio college town. The church was located a scant 100 yards from the city fire station, where the patrolmen turned in the first alarm.

When discovered, the fire was well advanced in the main auditorium and the efforts of the 8 Athens regulars, 10 volunteers and a pumper crew from Nelsonville, 14 miles northwest of Athens, were futile.

At the peak of the fire, about 25 fire fighters were manning seven hose lines stretched from four hydrants, all off 4-inch water lines, and connected to three pumpers. Total damage was estimated at $575,000.

The fire was believed to have started in, or near, the electric organ at the front of the church. When the first pumper arrived, flames were shooting from the eaves and windows of the building. An 8-foot blower fan with outlets throughout the church was in operation and help spread the flames.

Two problems were faced by the firemen: first, to control the blaze within the church and, second, to prevent its spread to nearby homes. One of the residences, only 15 feet south of the church was the Pi Beta Phi Sorority, housing coeds from Ohio University.

Under the direction of Fire Chief Charles Dalton, who answers all alarms, the first line was stretched from Pumper 4 to a hydrant about 75 yards north. This was a 2½-inch line wyed into two 1½-inch lines equipped with fog nozzles. While additional lines were being stretched, these two 1½-inch lines were carried into the sanctuary of the church and put into operation. The second line, also 2½-inch, was stretched by Pumper 4 from a hydrant about 35 yards to the south and taken into the rear door of the church and moved into the main chapel. Pumper 4 then returned to the first hydrant where it was connected to boost pressure.

While these lines were being placed in operation, Pumper 2 stretched a 2½-inch line from the rear of the church, where a honeycomb of Sunday School and class rooms were located, and connected in Pumper 4.

Fourth and fifth 2½-inch lines were taken from Pumper 1. The fourth line was put in play at the north side of the church on Church Street and the fifth taken to the southwest corner of the church.

Meanwhile, Chief Dalton had radioed a request for aid to Nelsonville, which responded with Chief Clarence Hall and three men on a 500-gallon pumper, under provisions of a mutual aid plan. The Nelsonville pumper, a front-end apparatus, connected to a hydrant about 200 yards to the west of the church and placed a 2½-inch line in operation.

All lines were hand lines as the operating forces did not have deluge guns.

About 15 minutes after the first lines were carried into the church, the tile roof began to crumble, and Chief Dalton ordered his men to retreat to safer positions. One of the 1½-inch lines was played through the front doors of the church and the second was taken to the roof of the sorority house. The 2½-inch line originally taken through the rear door of the church was moved to the rear of the sorority house to cover the rear section of the church and protect the sorority house.

Problem to Control Fire and Prevent Extension to Homes

With the church ringed by hose lines, all but one of them operating from a pumper, the fire was prevented from spreading to the adjoining buildings. In operation were 500 and 1000 gallon pumpers from Athens, and the Nelsonville 500 gallon unit. The city's service ladder truck was also at the scene. Athen's third pumper was returned to the station to answer subsequent alarms. Two other calls were received during the church fire, but both were "scares" caused in the immediate neighborhood by reflection and smoke from the burning house of worship.

Construction of the church was such that fire spread rapidly. Although the outside walls were of brick construction and a tile roof, most of the interior was of wood. The main auditorium, which seated 1000, was separated from the Sunday School section only by a thin wooden partition which could be lifted overhead to expand the seating, as needed. The Sunday School section consisted of a small auditorium, semi-circled by small classrooms formed by wooden partitions. Entrances to these were either covered by curtains or small wooden doors, and the fire easily involved the rooms. Also housed in the church were the rooms of the Wesley Foundation, student Methodist organization.

When the roof collapsed, it appeared that the fire would most certainly spread to the nearby homes, several of which were of frame construction. But the efforts of firemen, and a lack of a heavy wind, confined the fire within the structure. When firemen first arrived, the sorority house was ordered evacuated by Chief Dalton.

Early in the fire, high tension electric wires between the church and the sorority house presented a hazard to firemen; power company workmen however soon removed the lines.

When the church walls threatened to fall, Chief Dalton ordered his men from the roof of the sorority house and moved the line to the front of the church.

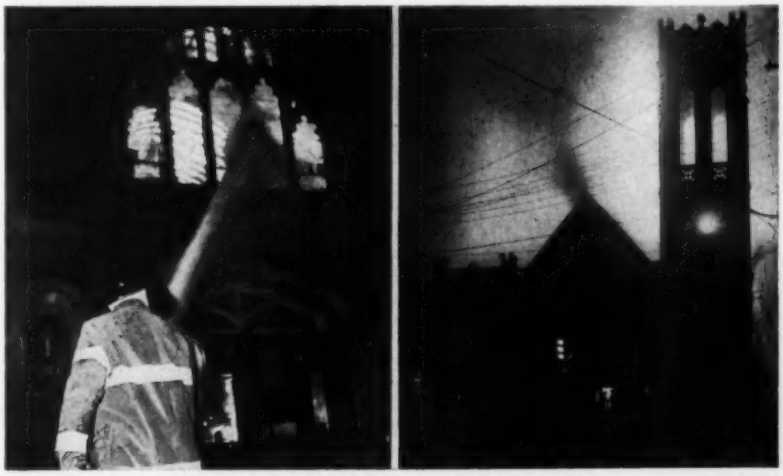
Firemen were on the scene until 3:30 p.m. Saturday, February 5. Throughout the night a crew with two 1½-inch hose lines were stationed at the church to prevent a serious outbreak of the smoldering embers. Firemen returned to the church February 6 and 7 to dampen debris.

Although the church was a complete loss, church and city officials praised firemen for preventing the spread of the flames to the neighboring homes. State Fire Marshal Department officers ordered the walls razed as a safety measure.

Pumper 4 was in operation for 10 hours and Pumper 1 for seven hours. The Nelsonville equipment returned to quarters after about five hours service.

Only one fireman suffered ill effects from the blaze. A volunteer collapsed from exhaustion after several hours work in sub-freezing temperatures.

It was felt the work of the regular firemen and volunteer firemen had demonstrated the value of a concentrated training program.



Left: Firemen putting water through front windows after they had been ordered out of building when roof collapsed and wall began buckling. Right: First lines of hose taken in front door at Athens, Ohio, church fire.

GOOD CONSTRUCTION AIDS IN CHECKING LARGE SCHOOL BLAZE

Despite Lack of Water, Fire Fighters from Many Communities Join in Saving Part of Structure

By Chief John D. Klinepeter

ON Sunday evening, February 13, the worst fire to strike the Harrisburg, Pa., area in 11 years destroyed half of the Herbert Hoover consolidated elementary and junior high school five miles north of Harrisburg.

Firemen were handicapped seriously by seven degree weather, delayed alarm, and above all, almost complete lack of water.

The nearest hydrant was located a mile and a half away; and the closest stream, 3,500 feet eastward, was frozen over to a depth of about eight inches. To the westward, a smaller stream was found four-tenths of a mile from the burning building, but was at the foot or a steep hill.

The school itself was a sprawling one-story structure of brick containing a total of 22 rooms, a combination auditorium-gymnasium, cafeteria, and other supply, locker, and shower rooms that are usually found in a school building.

The rear addition, providing 10 rooms, dedicated only a few months before, was saved by firemen, suffering only slight smoke and water damage.

The front section was erected in 1928, and was shaped like a squared letter "U". Inside the letter "U", an addition had been made in 1950, making the structure rectangular in shape. Here was the auditorium and four classrooms. The oldest section contained eight clasrooms.

Beneath the west section was the boiler room and cafeteria and various supply rooms stretched beneath part of the frontal section. There was no basement under the auditorium, but there was an air space, nearly sufficient for a man to stand erect therein.

Above all rooms, including the auditorium, were false ceilings where the blaze raged for hours, inaccessible to fire lines, between the ceilings and roof.

This rectangular section was burned completely out. First damages were estimated in excess of $200,000, but later investigations by qualified personnel set the loss at as high as $450,000.

The cause is still unknown, even though the ruins were investigated by insurance adjusters and the Pennsylvania State Fire Marshal's office.

A passing motorist saw smoke, but drove nearly a mile before something in his sub-conscious prompted him to return to the scene to make a more thorough investigation. He saw a glow inside smoky windows in the room above the boiler room, and called the first fire company.

Rescue Company of Estherton, the nearest company, is located 2½ miles away, and answered with two pumpers. It was Fire Chief Richard Bennar's territory. The Company received the first alarm from the telephone operator at 6:25 P.M.

All electric clocks in the building were stopped at 5:40 P.M. The two janitors had left the building about 5, and reported nothing amiss at that time. Two rooms were involved when the first company arrived. Fire Chief Bennar immediately dispatched calls for aid to Linglestown, five miles east; Colonial Park and Paxtonia, four miles southeast; Penbrook and Progress, four miles south, and Harrisburg, five miles southward. Harrisburg's Chief Earl Swartz dispatched two pumpers, from the Camp Curtin and Pleasant View Companies, and shortly afterward sent the Hope Company to stand by in the Colonial Park station.

Colonial Park answered with a high pressure truck—all others sent pumpers of various sizes (one pumper from each company).

Dauphin sent a pumper from their community five miles north. Chambersburg, 32 miles west of Harrisburg, and Hershey, 19 miles east, were both alerted (but not used).

A relay of 2½-inch hose was immediately ordered by Chief Bennar. Penbrook stood by the creek, pumping with a 600 GPM pumper to Progress 750 GPM, to one of Rescue's two 600 GPM pumpers, to Dauphin 500 GPM to the fire scene. Shortly afterwards a Harrisburg 1,000 GPM pumper was added in the relay, and Colonial Park's unit was placed at fire.

Four 1½-lines were wyed from the end of the relay. About this time the blaze had broken through the roof of the school, a built-up roof with tar at least six inches thick. It was apparent the relay would be ineffective. The only other source of water was a well in the school's boiler room, but it was inaccessible.

Tank Trucks Called

Chief Bennar then turned to companies with tank trucks. First called was West Hanover Twp., from nine miles east; Middletown Air Depot, from 15 miles south; and Mechanicsburg Naval Supply Depot, 11 miles west on the west shore of the intervening Susquehanna River. Middletown air base also hastily rinsed a 1,500 gallon gasoline truck with solvent, filled it with water, and dispatched it to the scene of the fire. This was repeatedly emptied through the top compartment fill by the Pleasant View Co. of Harrisburg, a 1,000 GPM unit, which drafted it with a six-inch hard suction hose dropped directly in the top.

By 8:30 P.M. the entire front of the building was involved, half of the roof was ablaze, and flames were spreading rapidly toward the auditorium, above the false ceiling, and under the floor.

At 9 P.M. Chief Bennar issued another call for tankers, which was answered by Summerdale, nine miles west; New Kingston, 15 miles west; another Mechanicsburg Naval Depot unit; and pumpers from Lower Allen, seven miles southeast; and Grantham, 19 miles west. In the meantime, Millersburg, 22 miles northward, was alerted, but never called into active service. The Washington Company of Mechanicsburg, seven miles west of Harrisburg, was sent to stand by at the Progress fire house.

By 9:45 P.M. the entire area that suffered eventual destruction was involved, and the flames were completely out of control. The fire's progress was comparatively slow, due to plaster and metal lath between rooms. The fire did not usually travel through walls until after they had collapsed. The main fire travel was above ceilings and under floors, into

(*Continued on page* 450)

Fire Chief Richard Bennar of the Rescue Company of Estherton, in whose territory the blaze occurred, wets down the ruins next morning, approximately 15 hours after fire started.

Six hours after fire started, firemen utilizing water from tank trucks still haven't gotten the fire out. Approximately half an hour after this was taken, flames gaining new headway, drive these firemen from the windows.

NEW!

FOG-HOG

500 G.P.M.
1,000 G.P.M.
SIZES

A HOG FOR FOG

[or straight stream]

PERFORMANCE DATA				
STYLE	P.S.I.	60° Fog G.P.M. Reach	30° Fog G.P.M. Reach	Straight Stream G.P.M. Reach
1245 2½" 500 G.P.M.	100	536 40 ft.	517 60 ft.	415 145 ft.
1247 2½" 1,000 G.P.M.	100	1083 55 ft.	1069 75 ft.	957 150 ft.

FEATURES

- **VOLUME** Tremendous gallonage and projection.
- **VERSATILE** Use on ladder pipes, deluge guns, deck pipes and monitors.
- **EASE OF OPERATION** Solid fog cone and all degrees of fog, straight stream or shut-off are instantly available. Akron design insures bind-free operation at all pressures.
- **DURABLE** Large rubber bumpers and Akron Brass provide years and years of trouble-free service.
- **ROCKERLUG** Easy, positive attachment to any 2½" thread.

500 G.P.M. and 1,000 G.P.M. sizes

AKRON BRASS
RE FIGHTING EQUIPMENT

AKRON BRASS MFG. CO., INC.
WOOSTER, OHIO

Volunteers Fit Apparatus to Needs

The Mount Penn Fire Company of Mt. Penn, Reading, Penn., has had a reputation as one of the best equipped and manned volunteer fire companies in its area.

Many members of the organization consider the most important factor in establishing that reputation to be its equipment, purchased to assure the community, and surrounding areas which it serves, the most suitable protection. Following this policy, the company has, this year, added to its department a one-ton pickup truck with four wheel drive.

This acquisition was deemed a necessity after thoroughly analyzing the topography over which the company must travel to fight mountain, forest, and field fires. Quoting Chief William K. Gery, "The Jeep can travel where the two larger pieces of apparatus cannot operate. The big trucks will remain on the hard surface roads and will serve as a "mother" unit by supplying water to the Jeep.

One outstanding feature on the unit is its five-nozzle ground sweep, mounted on the front end, and used to wet down at field fires, to flush streets and highways at scenes of accidents, and also to act as a water curtain to protect the Jeep and deck operator in extinguishing "hot" automobile fires. The ground sweep is operated by the driver in the cab.

This unit is equipped with a 160-gallon booster tank and a high pressure pump with an ability to pump 20 g.p.m. at 600 psi. A deck is mounted on the body with a high pressure gun rigged from a booster reel. From this deck a fireman directs the water where he chooses, as the operator has a 360-degree coverage.

There are times when heavy obstacles must be towed from the scene of disaster, or a disabled piece of apparatus must be towed, and even the Jeep can become mired in soft ground. To offset such handicaps the apparatus is equipped with a 3-ton winch mounted on the front end of the unit, and also tow hooks and a trailer hitch on the rear.

Other equipment which it carries includes two lengths of suction hose; a portable pump; four Indian tanks; two dry chemical extinguishers; an attic ladder; wrecking bars; axes; sledges; cable slings; tow chains; snatch blocks; pike poles; and various other forcible entry tools, as well as many forest fire fighting devices. The Indian tanks are refilled by means of a nozzle placed on the rear of the unit.

All the portable equipment on the unit is so arranged that it can be quickly unloaded to serve as an auxiliary truck for such purposes as returning to the fire house for additional equipment; or to meet any requirement for which the truck can be used.

Purchase of this vehicle is a result of several years of planning by the fire department officers. The unit was designed by the men. Money for purchase was collected during the New Year's drive by the company.

The Mt. Penn Fire Company was organized in 1904; it has 100 active members, all volunteers, three pieces of apparatus, all radio equipped.

Cows at the Triangle Dairy near Boise, Idaho, aren't surprised to see a flaming red fire truck around the barnyard. The dairymen double as firemen, and have extinguished numerous blazes for others.

Dairymen Double As Firemen

One of the problems of organizing and maintaining an effective fire department in a very small community is finding the manpower willing to become fire fighters when the need arises.

One of the solutions to that problem is sometimes found in the type of industry or business that maintains plants or other establishments in the rural area, such as dairies or cooperatives and willing to cooperate.

Such an organization is the Triangle Dairy, located outside the city limits of Boise, Idaho.

Inasmuch as there was no organized fire protection in the area covered by the Dairy, Dave and John Tate, co-owners of the business, decided to do something about it.

They bought a 500 g.p.m. skid-mounted pump and put it on a truck they had sitting around.

One thing led to another, according to John Tate. First they put a 50 gallon tank on the truck; then hose, ladders, red lights, siren, etc. New items were continually added. A night call demonstrated the need of flashlights. Then came protective clothing for the employee-firemen. And pretty soon the old rig was loaded down.

In 1951, the Tates bought a new vehicle and with it, they really embarked in fire protection business. This was further inspired by the fact that, having a measure of fire fighting facilities, folks would begin to call upon the "private fire brigade" for assistance. So it was that the original idea, to provide protection just for the dairy, gave way to the broader application, and the Tates decided to help out any of their neighbors if they had a fire.

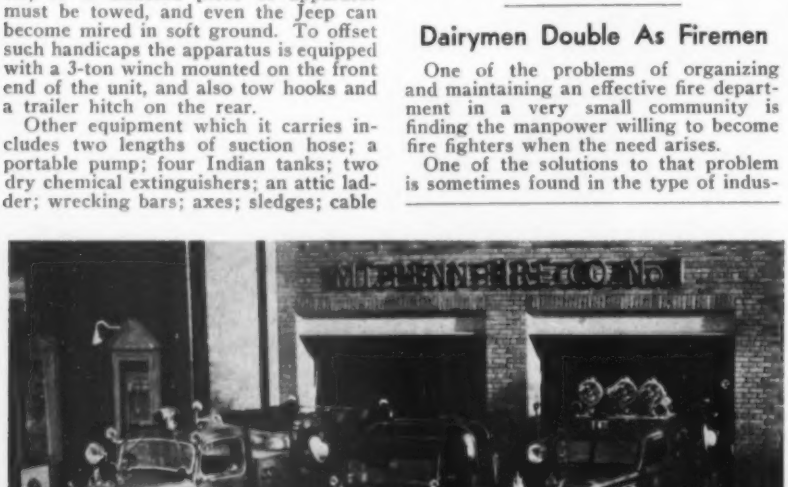
Little by little the calls came from farther away. The brigade made a run to a saw mill fire 45 miles up in the Idaho mountains; another trip took them 30 miles to Horseshoe Bend. There were six or seven runs to Star, about 20 miles from Boise. As John Tate says, "We never turn down a call, no matter when or where."

The first rescue mission the truck made misfired. Dairy employes spotted a shed burning nearby, drove to it, anxious to baptize their new equipment. The owner wouldn't let them. He was burning the shed down to get rid of it.

"Although operating a fire truck is expensive," says John Tate, "we have received a tremendous amount of publicity and good will from it, besides the satisfaction of being able to help people in time of need."

Today, Tate's Triangle Dairy is the largest retail dairy in Idaho. The institution is still adding new equipment from time to time to help its "brigade"

(*Continued on page* 446)

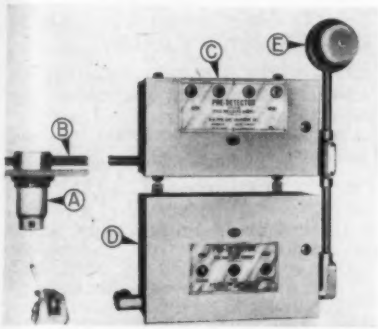


The Mt. Penn Fire Department: Left to right, 500 gpm triple combination, jeep high pressure truck; emergency truck.

News of the Manufacturers

Pre-Detector Fire Alarm

A revolutionary means of detecting fire in the earliest stage, without dependence on visible smoke or heat for actuation, was demonstrated April 5 at the plant of Pyrene—C-O-Two at Newark, N. J. The new, radio-active, automatic C-O-Two Pre-Detector System gave visual and audible alarms within seconds after the ignition of various type fires.



Schematic arrangement of C-O-Two Pre-Detector System, here being activated by cigarette smoke, has three principal units: pre-detector head (A), space indicating cabinet (C), and fire indicating cabinet (D). Electrical conduit (B) and alarm bell (E) virtually complete assembly. Space indicating cabinet, which may be used when two or more pre-detector heads are installed, shows location of fire in building, while fire indicator gives visual alarms for fire, power failure, or system disturbance.

With pre-detector heads, containing the radio-active element, spaced on centers up to 60 feet apart or up to 30 feet from side walls, the system can quickly detect the smallest smoldering fire and indicate the location where it occurs. It can also alert the public fire department and perform any number of functions to keep fire damage at a minimum.

Pilot installations have been made, engineers of Pyrene—C-O-Two stated, in a television station, a railroad signal tower, an electric power plant, network analyzer room, two air line flight training equipment rooms and the offices of an insurance company. Representatives of the company explain that this newest means of detecting fire has virtually universal application for indoor locations. Among some of the outstanding specialized uses indicated were the safeguarding from fire of properties such as merchandise warehouses, fur storage vaults, all kinds of electrical equipment, air conditioning equipment, aircraft hangers, racing stables, art galleries, museums, libraries and private residences.

The heart of the C-O-Two Pre-Detector System is an overhead detection device electrically connected to a fire indicating cabinet. The concept of this pre-detector head is based on earlier European research on the ionization chamber principle of fire detection. Each head contains a highly sensitive gas discharge (cold cathode) tube, plus two independent chambers, one of which is exposed to the atmosphere and the other virtually sealed from the atmosphere. A minute source of radio-active material is mounted in each of these chambers, and the radiation ionizes the air in the respective chambers, causing it to become electrically conductive.

Each chamber is adjusted to give equal voltage when combustion gases or smoke are non-existent. Also, each chamber will continue to do so for an exceedingly long time, since the half-life of the radio-active material is approximately 1,600 years. However, when combustion gases or smoke are present the balanced condition no longer exists. The chamber exposed to the atmosphere rapidly changes its condition, causing the tube to become electrically conductive, which in turn operates a relay in a space indicating cabinet, if used, or the fire indicating cabinet.

When combustion gases or smoke are present, relays in the fire indicating cabinet function to sound alarms, close fire doors, activate fire extinguishing systems, or perform other fire protection functions.

Power and Light on Tap

The City of Waltham recently placed in service a special floodlighting truck for emergency service which has a number of features.

It can be immediately illuminated upon arrival at any emergency and it can be operated by one man. It responds to alarms of fire and special emergencies such as drownings, where light and power may be needed.

The unit has a special body on a 1½-ton chassis, with dual rear tires. The body has large center space, with side cabinets opening to the outside, which contain four power-wound line reels on the left side and four on the right side. Each reel contains 450 ft. of Tyrex cord with connector attached. The side compartments house eight 500 watt Circle D hand lights, four on each side of the body.

A unique feature is a tower, installed on the body, supporting three 1,000 watt Circle D floodlights, which produce 60,000 candlepower. The tower is easily raised, lowered and rotated in a 360 degree arc. One 1,000 watt spotlight is carried in the center space and can be quickly installed on either side on top of the reel compartments.

At present, 128,000 candlepower may be produced at one time, and within a period of approximately two minutes. Power also is supplied for electric motors, saws, smoke ejectors or other electrical equipment used in emergency service requiring 110 or 120 volts, A.C. This current is supplied by two K.W., A.C., fully automatic Kohler motor-generator sets with total capacity of 10 K.W. The special body and mechanical equipment were produced through James A. Kiley Co., Somerville, Mass.

Power Speaker for Fire Apparatus

By means of several circuit innovations, Motorola has developed a built-in public address unit in its "Big Voice" two-way radio. This feature is implemented by a toggle switch on the standard noise-cancelling palm-type microphone, enabling the operator to quickly and conveniently switch from normal radio transmission to public address operation. No other adjustments or control settings are necessary.

Demonstration showing how new two-way radio system with built-in public address can be used to direct fire fighting activities. Weatherproof speaker is mounted on a swivel support and can be aimed in any direction. Auxiliary switch on microphone permits user to switch from public address to radio at will.

The "Big Voice" two-way radio can now be used in the following ways:

(*Continued on page* 451)

Special floodlighting truck serves Waltham in emergencies.

FALSE ALARMS

Identified

An old man knocked on the door of an inn known as "George and the Dragon." When the landlady opened the door the old man asked, "Could you spare a hungry man a bite to eat?"

"No," snapped the woman and slammed the door in his face.

The old man knocked again, slipped his foot in the door and said, "Could I speak to George?"

The television repairman was trying to locate the trouble in a friend's set. A short time later the six-year-old came dashing in from school and said, "I'll bet if you'd clean out those dead cowboys from the bottom of the set it would work again."

Not so long ago, a disheveled lawyer walked into a psychiatrist's office, tore open a cigarette, and stuffed the tobacco up his nose.

"I see that you need me," remarked the startled doctor.

"Yeah," agreed the lawyer, "Do you have a light?"

Asked if he liked intellectual girls, a sailor replied: "I like a girl with a good head on my shoulder."

On his fiftieth wedding anniversary, Henry Ford was asked his formula for a successful marriage. He replied that it was the same formula that made his car successful—"Stick to one model."

Evidence

Patient: "Doc, I'm worried. I have the entire ceiling and all the walls of my bedroom covered with Marilyn Monroe calenders."

Psychiatrist: "Don't worry about that, boy. That doesn't prove there is anything wrong with you."

Patient: "Yeah, Doc, I know that lots and lots of normal guys dearly love to ogle Monroe, but, you see, I sleep on my stomach."

"... whereas with my invention you merely blow the fire out."

Instructions Carried Out

The village blacksmith found an apprentice and immediately began his instructions to the lad: "When I take this piece of iron out of the fire, I'll lay it on the anvil; and when I nod my head, you hit it with the hammer." The apprentice did just as he was told. Now he's the village blacksmith.

An old flame is what a girl uses to burn up her new boy friend.

Son: "Dad, why do they rope off the aisles at weddings?"

Dad: "So the bridegroom can't get away, son."

Wrong One

"I called on Mabel last night, and I was hardly inside the door before her mother asked me about my intentions."

"That must have been embarrassing."

"Yes, But the worst of it was Mabel called from upstairs and said: 'That isn't the one, mother!' "

G-Man: "He escaped? That's terrible. Didn't you obey my orders to guard all exits?"

Village Cop: "We certainly did, but that slicker must have slipped through one of the entrances."

The lady of the house told the new maid to be sure and dice the beets for dinner. After four hours work, the new maid came in to the mistress and said, "Madam, cutting them beets up is pretty easy, but puttin' all those black dots on 'em is quite a job."

Housewife: "I want some grapes for my sick husband. Do you know if any poison has been sprayed on these you have?"

Grocer: "No, Ma'am, you'll have to get that at the druggist's."

"Doesn't your new baby brighten up your home?" asked the neighbor.

"Yes," answered the new father. "Now we have the lights on all night."

Distraught mother made the following announcement to a group of wild children at a birthday party: "There will be a special prize for the one who goes home first."

Salesman: "This model has a top speed of 130 miles an hour, and she'll stop on a dime."

Prospect: "What happens after that?"

Salesman: "A little putty knife comes out and scrapes you off the windshield."

A bachelor is a man who enjoys life, liberty, and the happiness of pursuit.

Stronger, lighter and easier to handle

EUREKA
Multiple-Woven
with Dacron Construction

Any fire chief knows that a heavy, writhing fire hose under pressure is as dangerous as a boa constrictor on the loose. That's why strength, lightness and flexibility in a fire hose are so important. These are the big features of Eureka Multiple-Woven with its special Dacron* filler yarn. It's the best all-purpose fire hose made, and can be furnished wax and gum treated, if desired.

Eureka Multiple-Woven is made on special looms so that all plies are interwoven. Water and dirt cannot collect to weigh down and cause excessive wear. Its smooth interior filler ply reduces hydraulic friction, allows for maximum nozzle pressure.

Another big feature of Eureka is its long-range economy. It far outlasts cheaper hose, cutting costs per year in half. And with that saving goes far better performance and greater safety.

*Du Pont's polyester fiber

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Rubber-Lined Fire Hose

195 Hudson Street • New York 13, New York • *Division of United States Rubber Company*

BRAXMAR
GREATEST NAME IN
BADGES

SERVING THE FIRE FIELD
Since 1879

Firemen the world over rely on Braxmar for the finest badges money can buy. We offer the widest possible selection in nickel, chrome plate, sterling silver, gold plate, rolled gold and solid gold; all of our badges and insignia are the work of experts with a lifetime of service.

Write for latest catalog and price list.

Dealer inquiries invited.

THE C. G. BRAXMAR CO., Inc.

JOHN O. VEIT, *President* — JOHN O. VEIT, JR., *Secretary-Treasurer*

216 E. 45th Street, New York 17, N. Y.

Ambulance Service

(*Continued from page* 414)

istown, Pa., in 1927, with an old hearse which members converted into an ambulance, now has four modern units, owned and operated by the Fame Company and the Brooklyn Hose Company, both part of the Lewistown Fire Department.

This Ambulance Service is continued and financially supported by:

1. Yearly membership (in the Ambulance Service) for a fee of $2.00, which entitles a family to free ambulance service within a radius of 100 miles. Service beyond the 100 mile radius is charged on a mileage basis.

2. From a set scale of rates charged other than members of the Ambulance Service, these rates being on a flat mileage basis for 100 miles.

Non-Members

Local calls up to 5 miles.....		$5.00
6 to 10 miles.....		7.00
11 to 20 miles		10.00
21 to 50 miles	(per mile)..	.50
51 to 75 miles	(per mile)..	.45
76 miles or over	(per mile)..	.40

Club Members

100 miles free
Over 100 miles (per mile).. .40
Club membership $2.00 per year—
All cards expire April 10 of each year.

Free ambulance is not rendered by Fame to any individual member of the fire department; they must belong to the Ambulance Service. [Injury received at fires excepted.]

A yearly drive is made for membership in the Ambulance Service; however, membership is accepted at any time. Yearly drives are community wide, being conducted by teams. A spirit of competition is injected into the drives to secure members, which always brings results.

Bingo, Former Revenue Producer

A number of companies in New Jersey and elsewhere reported somewhat regretfully that formerly maintenance was financed by bingo. In Connecticut, the law permitting bingo by fire departments was revoked. In New Jersey, bingo is now permitted, with reservations. Several companies reported they raised revenues by "*Bingo, Donations—Annual Drives.*"

Down in Baltimore County, Md., the Violetville Volunteer Fire Department, Inc., operates its own ambulance service. The ambulance serves the Western end of the County and vicinity and part of Howard and Anne Arundel Counties and the fringe of Baltimore City.

High point of its fund raising drive is the Violetville Fire & Ambulance Carnival, lasting a week, usually in August. "All profits used toward charity," advertises the souvenir book of the affair, which contains announcements of friends and business firms.

The booklet contains promotional material and the program of events, which include a big-name baseball game.

A number of other fire departments hold yearly carnivals, tournaments and the like, from which they derive sufficient revenue to pay all ambulance squad upkeep costs, and purchase of replacement vehicles and equipment.

In some instances the town, village or fire district assists in maintaining the service through tax, or straight budgetary allocation.

Summing up, the volunteers in general manage to pay the cost of maintaining and servicing their investment on the same broad basis under which they acquire new equipment. For the most part, the service in its entirety is no direct tax or other expense to the community except where the unit is administered along with fire fighting forces by local civic budget.

Charging for Services

A noteworthy feature of the ambulance service covered by the survey is the fact that, with but very few exceptions, the service is free. The only exceptions disclosed were for the most part limitations placed on certain demands made upon the ambulance corps or squad. Even then, in most instances, some services were gratuitous.

The spirit of the volunteer ambulance service is well expressed by the report of the Ocean Grove, N. J., Company which said: "*We never make any charge for any service at any time.*" A somewhat similar expression was received from the Madras, Oregon, Squad. It said: "*A free service to the tourist, and truck driver, the same as our local people.*"

This spirit of volunteer service prevails whether the ambulance unit operates as part of the fire department, or independently of it, or under the aegis of the department. This factor no doubt plays an important part in the creation of public good will, as is discussed later.

In a majority of cases, even though a member of the fire department may not be a participating supporter of the ambulance company, he receives ambulance service without cost to himself or family. In other instances, however, some charge may be made to citizens who are not supporting or contributing members of the service.

First Aid Training

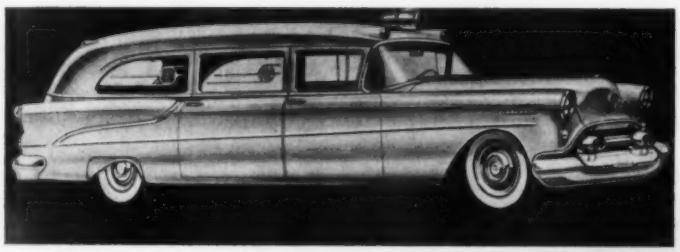
It is generally considered requisite that personnel riding an ambulance have had competent training in first aid procedures. The majority of respondents who were asked concerning this detail

Members of the Oceanside Volunteer Fire Department's Emergency Crew, Oceanside, N. Y., treat fire fighters for smoke inhalation.

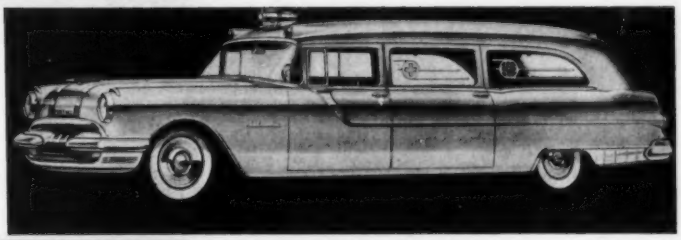
EXTRA *Beauty* AND *Performance*

NATIONAL'S COMPLETE LINE OF MODERATELY-PRICED MINUTE MAN AMBULANCES

To provide you with the ultimate in utility and performance, National will build to your requirements, the Minute Man Ambulance Body on the chassis of your choice.



OLDSMOBILE CHASSIS



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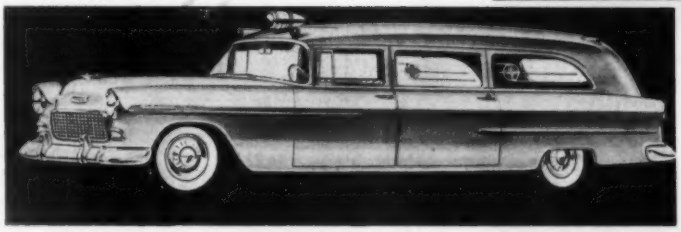

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replied in the affirmative, and most of the squad members hold American Red Cross First Aid certificates or cards.

The Madras, Oregon, unit states it thus: *"It is mandatory for all active firemen (serving with the ambulance corps) to meet the requirements set up by the American Red Cross First Aid Training course, and they shall at all times hold a current ARC First Aid card."*

Several respondents emphasized the importance of enlisting the interest and support of as many professional persons in or connected with the medical fraternity as possible in this enterprise. From the Allyn, Wash., squad this comment: *"We are fortunate in having a goodly number of persons in this area with varying amounts of training in the different branches of the healing arts, from standard first aid to retired M.D.'s."*

Reference to the history of the nation's ambulance service both professional paid, and volunteer, clearly illustrates the importance of using only trained, experienced personnel in this work. They need not necessarily be men—a number of ambulance and rescue services are staffed entirely or partially by women—but training should be mandatory, according to the majority of respondents.

Insurance Is Essential

Adequate insurance coverage is vital to the successful operation of any ambulance enterprise, particularly where it is administered and maintained by volunteers.

That insurance must cover (a) drivers, and other operating personnel; (b) patients, or other non-operating personnel conveyed, and (c) vehicle and equipment.

The survey shows that of those questioned, not one but what was covered by some form, or forms, of insurance. In States like New York, providing liability compensation for volunteer fire department operation, including rescue and emergency services is accomplished by insurance in most instances. A number have additional coverage through group or other company insurance.

In New Jersey, many fire companies have group accident insurance, paid for by the fire company, and workmen's compensation insurance paid for by the Borough and/or Township. In some cases both in this and other States, the Township provides the full coverage. Under these Town policies it is requisite that members of the squad or corps be in good standing, and measure up to certain other requirements.

Several respondents stressed the importance of protecting both driver and patient against accident of any kind.

A number of ambulance units, although operating independently of the local fire departments, nevertheless cooperate with them and claim to come under the department's insurance coverage. Some also report coming within the State Workmen's compensation insurance provisions.

Units Keep Busy

The popularity and importance of the volunteer emergency ambulance service is indicated by the number of calls and runs, and the mileage covered. In the main, this is related to the population and area served by the unit. Other factors governing response are: whether or not the unit responds to fire alarms or only special calls; the extent and type of emergency service rendered (transporting sick and non-emergency cases); the size of membership served, and the extent to which members call for ambulance service.

Growth of the emergency ambulance service has been greatest in coastal areas and along waterways, particularly in resort territory where accidents are most frequent.

There is also some relation between business done by the ambulance company, and its juxtaposition to major transportation arteries — throughways and busy highways. Highway and submersion accidents rate high on the list of causes requiring emergency ambulance service.

Of respondents reporting, calls varied all the way from 25 per year for the Stewart Manor, L.I., N.Y., (pop. 2,300) Fire Department ambulance unit, to 1,000 and over for the Fame Fire Company No. 2 squad (Lewistown, Pa., pop. 14,000; six mile area served, pop. 20,000). Of the Fame calls, approximately 500 are from Company members. About 25% of the total calls are from the needy or others unable to pay. The balance of calls reported are classified as "paid calls, fire calls and miscellaneous." This company's ambulances average yearly travel of 21,000 miles and men perform 1,500 hours of service.

Some ambulance units naturally show peaks of service, depending upon location, climate and clientele served. Logically the annual "business done" is greater where ambulance units respond

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to all fire department alarms, in addition to non-fire calls, than when they answer only special calls and/or large fires. It it noticeable from these reports that, almost without exception, the demands being made upon the units for service are increasing yearly as population, traffic an other factors grow.

The second half of this article will appear in the June issue.

World Wide Fire News

By Rei B. Woolley

Oslo Sirens Short Touches Off Near-Panic

Scenes reminiscent of World War II were enacted early Jan. 22 last, in Oslo, Norway, when a short circuit in a section of Oslo's air raid system set off sirens.

The Chief of Oslo's Civil Defense said faulty wiring caused a fuse to blow in the Frogner district telephone exchange and started the sirens a-wailing.

Hundreds of residents rushed into the streets in their pajamas and ran to shelter just as they had done during the Nazi raids of World War II.

Many militiamen grabbed their rifles and helmets and went to their armories because the alert signal is also a call for mobilization.

Frightened residents jammed telephone switchboards at fire and police stations, newspaper and military headquarters.

It was believed that an abrupt change in temperatures caused the short circuit, which was found by engineers after a half-hour search.

* * *

British Refinery Fire Fought for Hours

In Corringham, England, 200 firemen fought for five hours to gain control of a huge oil refinery fire. The blaze broke out after an explosion which rocked houses 15 miles away.

The initial blast occurred in a storage tank containing 900 tons of naphtha. Fire quickly spread to a neighboring tank, while a column of smoke 10 miles long stretched across the sky.

Four tanks in a "farm" of eight reportedly were destroyed. Two of the damaged tanks contained gasoline. Fire fighters, using many "jets," and refinery brigade workers finally stopped progress of the blaze. The only casualty reported was an electrician, who suffered from shock.

* * *

Fresh From the World Fire News Ticker

On Feb. 28, a long-dormant volcano erupted near Honolulu and set a forest fire that forced villagers to flee. Lava from the Puulena Volcano on the Eastern tip of the Island of Hawaii spread widespread destruction. . . . Two fires on the night of March 5 and early the 6th in downtown Santiago, Chile, caused damage estimated at $2 million. . . . Five children died and eight adults were injured in a fire that raged through Dugupan City in Panaksinan Province, P. I. . . . Firemen from three cities responded to an alarm on March 21 from the top secret Government atomic weapons laboratory at Aldermaston, Eng. Members of the laboratory sought to put out the fire themselves but had to call for aid. Because of secrecy reg-

ulations, details as to cause and extent of the blaze are lacking. . . . A storage house in Montevideo, Uruguay, was swept by fire March 25. Damage $650,000. . . . In Rutherglen, Scotland, three men were killed and 17 injured on March 6 last, in an explosion at a chemical plant. . . . A block of homes was destroyed in a three-hour blaze in Manila's residential Pasay district the night of March 21. Five persons were reported missing, nine injured; damage was estimated at $750,000. . . . A munitions dump in the Soviet zone blew up early in April killing two East German Communist police and three workmen, West Berlin papers reported. . . . When a bus packed with passengers caught fire, on April 2, following explosion of a gasoline pump, in Fez, French Morocco, a woman and two men passengers were killed. . . . The Convent of St. Francis, founded by St. Francis of Assisi in 1224 and now a national monument, at Arevalo, 38 miles from Avila, Spain, was destroyed by fire April 2. . . . A strike by firemen and police caused a two-day tie-up of plane traffic at Eire's Shannon Airport. . . . On April 8, fire destroyed 50 houses in atom-bombed Hiroshima, leaving 500 people homeless. No casualties reported. . . . The Marquis de Maussabre of Poitiers, France, blew up his vast chateau in April, 1955 because he couldn't pay the upkeep. His father built the house in the 1840's. It had 365 doors and windows and miles of corridors. Workmen put dynamite in 114 holes drilled in the gray stone walls—and boom! . . . A chemical explosion during a cleaning operation in the nuclear power laboratory at Allis Chalmers Manufacturing Co., on March 22, injured one man and shook buildings over a wide area. Blast came as two women used kerosene to clean a tank containing a residue of sodium and potassium alloy, both metals with low melting points.

* * *

24-Hour Notice Required of Ships Docking in U.S.

Stiffening of U. S. security measures in seaports was disclosed March 11, when the Coast Guard announced it would require all ships to give 24-hour advance notice before entering the United States seaports, beginning at once.

The order was not prompted by any emergency situation, Coast-Guardsmen said, but was designed to improve the port security measures. Most ships, it is said, voluntarily give 24-hour notice. Under the four-year-old security program, all ships clear with the Coast Guard when they enter U. S. seaports. Failure to give notice may mean fines or imprisonment for a ship's master or its agents or could lead to the seizure of the ship.

Suspect Arson in Hotel Blaze

A 20-year-old man was accused April 22nd of setting a fire that drove about 300 persons from their rooms in the St. James Hotel, Philadelphia, Pa., the day before. Investigation showed he had registered in the hotel and was given a room not far from where the fire started. Firemen aided fully one-third of the occupants from the building and extinguished the smoky, stubborn blaze after a punishing struggle.

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Supply Capabilities of Water Mains

To the Editor:

1. A statement from a sample civil service examination says:

"A 6-inch main can supply two pumpers."

In "Hydraulics for Firemen," by John J. Theobald, the following statement is made: "It is not good practice for a first class pumper to be employed on a 6-inch main." The two statements are contradictory.

I would like to have a chart showing the number of pumpers, Class A and Class B, and the combination of Class A and B pumpers that can be supplied from various size mains from 6 inches to 16 inches. Assume that said mains are charged with at least sufficient pressure so that the inside circumferences are completely filled with water. A general formula would be still better. Such conditions as looping of mains, and the minimum pressure in the mains would have to be assumed.

2. In regard to the question on "Layouts for Fog Nozzles," by C. D. on Page 165 of the February issue of FIRE ENGINEERING, the practice of stretching a 2½-inch line from hydrant to fire site, then breaking and reconnecting hose to the pumper, and stretching 1½-inch lines to the fire, is employed by this fire department for residential fires. We have a separate 2½-inch inlet to the pump which precludes the attaching of an adapter, and having a pipe running from the discharge side of the pump to an attached wye connection, from which are deployed two 150-foot lines of 1½-inch hose. One of these lines is equipped with a plain ½-inch shut-off nozzle; the other with a combination 1½-inch fog and plain ½-inch nozzle.

My particular worry lies in the possibility of collapse by vacuum of the feed line from hydrant to pumper, by insufficient pressure and too long a stretch of feed line. Our hydrant pressure varies perhaps from 40 pounds per square inch to 60 pounds per square inch under favorable conditions, but may be 20 pounds per square inch or lower in some localities, especially in the summer season.

I would like to procure your method of calculating the maximum stretch of 2½-inch feed line for all possible contingencies such as at different hydrant pressures, the employment of a single 1½-inch line (150 feet) with 1½-inch fog nozzle, and with plain ½-inch nozzle, the use of both lines with fog nozzles, of both lines with plain ½-inch tips, and use of both lines, one with 1½-inch fog nozzle and the other with ½-inch plain nozzle.

I am interested in your method of arriving at 2100 feet of 2½-inch feed line with 75 pounds per square inch hydrant pressure to supply the 1½-inch fog nozzle and the 600 feet of 2½-inch feed line to supply two 1½-inch fog lines at 100 pounds per square inch nozzle pressure. I notice that C. D. H. does not specify the length of his 1½-inch hose line.

3. In my immediate district is a group of barns which lie outside the city limits. There are two hydrants in close proximity to this group, which are supplied by a single 4-inch main. The pressure is always low. Assuming a mere 5 pounds per square inch in the main (not discharge gate) we should be able to pump 960 gallons per minute from this main, and safely supply three 2½-inch hose lines, each 200 feet in length, and each equipped with a 1⅛-inch nozzle at 50 pounds per square inch nozzle pressure. The three nozzles would be delivering a total of 795 gallons per minute, and engine pressure would be 85 pounds per square inch.

I based these figures on the tables found in "Fire Engine Tests and Fire Stream Tables," by the National Board of Fire Underwriters.

The hydrants have only 2½-inch outlets, and a 50-foot section of 2½-inch hose would have to convey water from hydrant to pumper. We have no small suction hose. Would the low main pressure be sufficient to sustain rigidity in the hose from hydrant to pump, once pumping operation had started?

J. P. D.

Answer 1. A 6-inch main can supply two pumpers, provided the main is connected to larger diameter mains on each end, and the distance from such connections to the pumpers is not large. On the other hand, if a main is supplied at one end only, and the stretch from the

point of conection to the pumper is great, the chances are that enough water would not be delivered to a pumper to permit it to operate at full capacity.

It would be impractical to make out a chart showing the capacities of different main layouts such as encountered in the average city. As a matter of fact, the National Board of Fire Underwriters in making their engineering surveys of the water supplies of cities runs discharge tests on the various hydrants. This is the only way in which they can determine what the flow from a hydrant will be.

Although a hydrant may show a satisfactory presure when water is not flowing, as soon as the flow starts, the pressure may drop down to a point where it would be of little value.

In the modern gridiron system, where 6-inch mains are cross-connected to larger mains at every cross street, and where the supply of water is good in the system, you would normally be able to supply two pumpers from each 6-inch main.

Answer 2. Before we can solve such a problem as this, we must know what the residual pressure in the hydrant is *while supplying the hose line.*

Pressure in hose line at the hydrant must be sufficient to overcome friction in the line and give ample inlet pressure at the pumper stationed at the fire.

As long as pressure throughout the hose line remains above zero, the hose will not collapse when pumper is in operation.

Where the discharge from hose line into a pumper is known, or can be calculated, the minimum necessary pressure at the hose butt at pumper can be determined from formula:

Discharge (gpm)$=29.7 \text{ d x d x } \sqrt{P} \text{ x } 0.9$, where "d" is the butt diameter and, "P" the butt pressure in pounds per square inch.

For example, if the discharge is 200 gallons per minute, and the hose butt is 2½-inches in diameter, the formula then becomes:

$200 = 29.7 \text{ x } 2.5 \text{ x } 2.5 \sqrt{P} \text{ x } 0.9$

$200 = 167 \text{ x } \sqrt{P}$

$200 \div 167 = \sqrt{P}$

$\sqrt{P} = 1.19$

Then $P = 1.19$ x 1.19, or 1.416 pounds.

Actually, because of variations in friction loss in different makes and ages of hose, we would allow more than 1.416 pounds inlet pressure. It is a common rule to allow 10 pounds inlet pressure to take care of these variations. However, in some cases 5 pounds may be sufficient.

Now, having hydrant pressure, flow and pump inlet pressure, the maximum length of hose stretch can be calculated.

Suppose the hydrant pressure, while stream is being supplied, remains at 40 pounds. Suppose, further, that the flow is 200 gallons per minute. *Assume* a presure of *10 pounds* at the inlet to the pumper; also assume 2½-inch hose is being supplied.

There will be available for overcoming friction loss in the line 40–10, or 30 pounds.

We are to figure out what length of 2½-inch hose with a flow of 200 gallons per minute will give 30 pounds friction loss.

Friction loss per 100 feet of 2½-inch hose is found by the formula:

F. L. in 100 ft. 2½-in. hose $= 2Q^2 + Q$.

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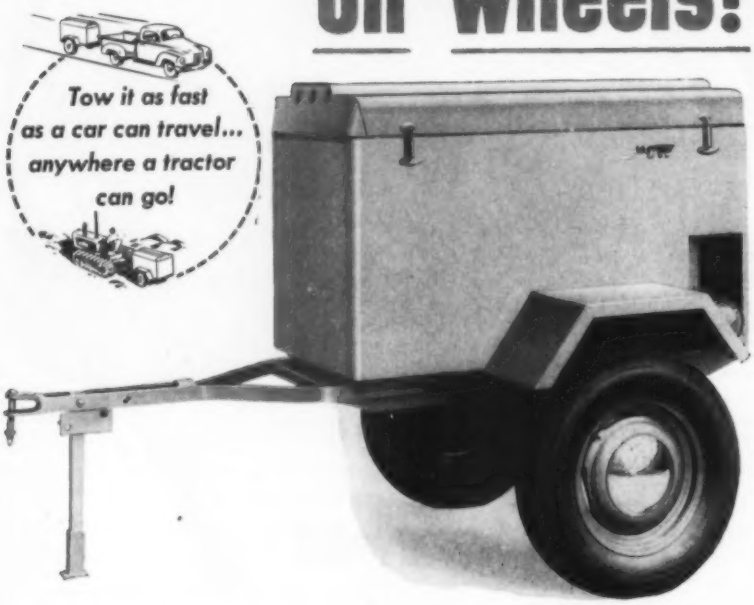

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where Q is the flow in *hundreds* of gallons per minute. Q in this problem is 2.

Then F. L. = 2 x 2 x 2 + 2, or 10 pounds.

Now if the friction loss is 10 pounds for 100 feet, the line can be 30 ÷ 10, or 300 feet in length.

Answer 3. A 4-inch main of average condition, for a flow of 900 gallons per minute, would have a friction loss of approximately 308 pounds per 1,000 feet, or 30.8 pounds per 100 feet. If the main is fed at one end, and the distance of feeder main to which the 4-inch pipe line is connected, is but 500 feet from the hydrant, the friction loss at 900 gallons per minute flow would be 154 pounds.

Thus what the 4-inch line will supply would depend upon the distance to the feeder main which supplies it. If the 4-inch main is fed from both ends, the friction loss for a given flow would be materially less.

Dynamite Fire

To the Editor:

How can you extinguish a fire in a box car or a truck loaded with dynamite, and what precautions should be taken in putting out this kind of fire?

J. E. G.

Answer: Some years ago when Colonel B. F. Dunn was head of the Bureau of Explosives of the American Railway Association, he was asked what a fire department should do in the event that it responded to a fire alarm and found a box car full of dynamite involved by fire.

His advice was, "Run like H. . . ."

Colonel Dunn was one of the foremost authorities on explosives, and we are inclined to feel that his advice at that time would hold today.

Dynamite is a very tricky substance when involved by fire. It may burn like grease, and then again it may detonate.

In the case of a truck being involved by fire, it should be abandoned, but at such point that the subsequent explosion, if it occurs, will do a minimum of damage.

New England Chiefs' Conference Plans Materialize

Panel discussions, symposiums, and round tables in which members of the Conference will participate will feature the forthcoming 33rd Annual Conference of the New England Association of Fire Chiefs, scheduled for June 20, 21, 22 and 23 at Wentworth-by-the-Sea, N. H., according to Chief Joseph Scanlon, Chairman of Topics and Speakers Committee.

One of the Round Tables will treat the subject of traffic problems affecting the fire service. Leading authorities on motor vehicles from each of the six states in the Association will serve on the round table panel. The moderator has not been announced.

Another round table which will handle the whole gamut of questions in the Question Box, will embrace Chiefs of Fire Department from each of the states. Chief Roi Woolley, assistant editor, FIRE ENGINEERING and Technical Consultant to the Association, will act as moderator.

In addition to these open discussions a number of outstanding experts will discuss selected topics.

Among the Buffs

By Paul C. Ditzel

SEVERAL letters were received this month from buffs who mentioned they've seen my byline in various men's adventure magazines. Others said they'd heard that some of my fire stories were appearing in these national magazines and wondered where they could find the articles.

While back issues are sometimes difficult to find, I can tell you that the August issue of *Male* Magazine will carry a story by me on a rescue case handled by Culver City Firemen Charles Gibson and Art Brice.

The story told to me in their own words concerns a truck driver who fell onto the giant revolving corkscrew blades of a mixer in a cement hopper. The corkscrew carried him along and firmly wedged his legs and an arm. The victim remained conscious throughout the ordeal as Acting Captain Gibson and Engineer Brice used an acetylene torch to cut him out.

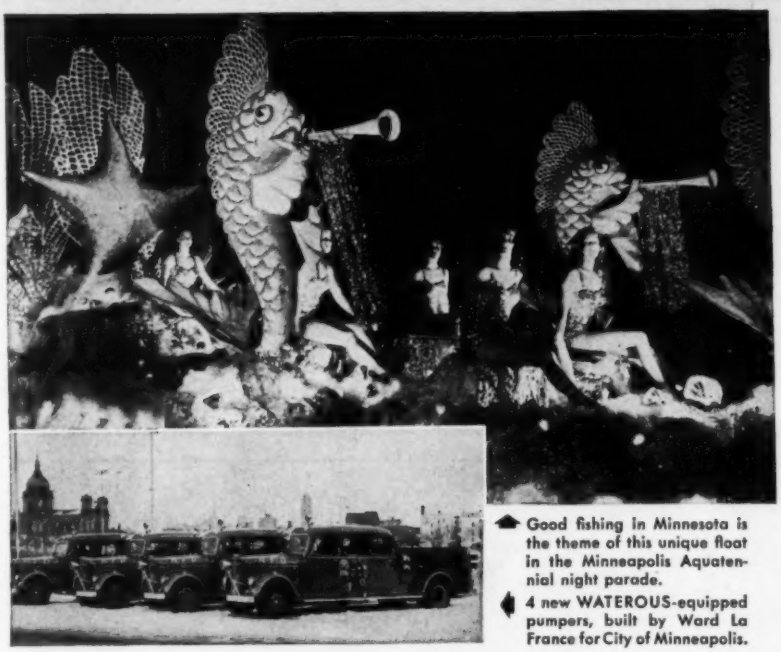
This same magazine group — *Male, Men, Stag, For Men Only* and *Men in Action* — all edited by Noah Sarlat, has a number of other fire stories by me and other writers in their inventory and I'll hope to be able to tip you off in the future to these magazines before they hit the newsstands and are sold out.

The Culver City Fire Department story by Gibson and Brice has a slightly different type of ending, so watch for the August issue of MALE.

As many of you buffs know, the work of the smaller city departments often fails to make the newspapers closer to the bigger departments. In the case of Gibson and Brice, the downtown Los Angeles papers gave another department much of the credit for cutting out the trapped truck driver.

Speaking of smaller cities brings to mind the annual report of the Box 21 Associates of Dayton, Ohio, and provides me with a chance to call your attention to a new project of this monthly column. I plan to devote many future columns to detailed accounts of the activities of fire fan and buff clubs around the country. So you club secretaries might be getting together material to send me which I can use to publicize the work of your club. These reports will probably take up all or nearly all of the column space for that month, so be sure to send along plenty of information and anecdotes. If I haven't heard from your club in the past six months, it's a safe bet that yours is not one of the clubs now on the schedule for writeups. So if you want a sounding board for your club's projects and activities, the floor is now yours.

The Dayton club's report, sent to me by Winston M. Gress, 1325 Wakesfield Ave., Dayton 6, Ohio, is one of the finest I've ever seen. This ninth annual report prepared by J. S. Sapinsley, historian, contains a cover picture of a badly charred body being carried by a member from the ruins of a flame-blackened building. At first glance the picture looks too horrible to be printed, especially with the grinning picture of



Good fishing in Minnesota is the theme of this unique float in the Minneapolis Aquatennial night parade.

4 new WATEROUS-equipped pumpers, built by Ward La France for City of Minneapolis.

Minneapolis Modernizes

● Minneapolis, city of parks, lakes and the famous summer fun festival, the Minneapolis Aquatennial, is proud of its efficient, well trained Fire Department. Recently the Department received an award for its outstanding 1954 record of fire prevention in this city of half a million inhabitants.

Helping Minneapolis maintain its excellent record are four recently delivered units shown above . . . each equipped with a WATEROUS CD-4-1250 Class A centrifugal pump. Also in service are two of the largest fire pumps ever built . . . giant WATEROUS 2000 GPM centrifugals.

Though officially rated at 1250 GPM, during the acceptance test, Minneapolis' new units delivered *1520 GPM with a 5" hose while pumping from draft!*

Besides its advantage of big capacity and dependable performance, the CD-4 offers other features that have made WATEROUS pumps famous for easy operation and maintenance.

These include the horizontally split casing . . . outboard oil lubricated bearings . . . lubricated split-gland stuffing boxes . . . easily replaced bronze wear rings . . . highest quality accessories.

If you, too, are in the market for new pumping equipment, "Preferred Fire Pump Specifications" has been specially prepared to help you. For your free copy, write WATEROUS Company, 40 East Fillmore Ave., St. Paul 1, Minn.

CD-4
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DEPENDABLE PUMPS
SINCE 1886

what appears to be a ghoulish fireman. Then you realize the Box 21 member is merely carrying out a burned store manikin during salvage work following a second alarm at Rikes Department Store. The photo was taken by Paul Horn, an enterprising cameraman on the staff of the Dayton *Daily News*.

The Dayton club takes its name from the original Box 21 which the record books show was pulled for more multiple alarms than any other in the city. The original box is now in the clubrooms.

The club's report covers the period from October, 1953, to September, 1954, and lists officers as Chief Ed. Powers, president; Assistant Chief William Roth, vice president; District Chief Howard Malone, second vice president; Captain Don Everhart, secretary and Captain Charles Steuer, treasurer. At the front of the report is the complete membership of the club, including home addresses and telephone numbers, plus a list of the telephone numbers of various emergency services in the area.

The detailed account of the club's work also carries pictures of their Canteen and Salvage Truck, their Rescue Truck and photos of all club members. (Many of you smaller club members are probably saying at this point that the Box 21 report is fine, but you wish you had the money to put out such an excellent review of your work. This report is mimeographed and while the entire project has a professional appearance about it, I doubt whether the cost was extraordinarily high.)

The Box 21 club was founded in 1935 by a group of buffs who lived near Engine 13. As the club grew, the scope of its work grew, too. Spring floods established a need for water rescue equipment, so members pooled their money and bought a boat and trailer. This resulted in the club being called to assist at drownings during other months of the year.

The club is composed of 35 members who have won the respect and admiration of both the fire and police services in the area. Credit for Box 21 work is never taken individually by a member. If asked by newsmen to give his name, the member answers, "an associate of Box 21." All members, before being admitted to the club, must complete Red Cross first aid training and have a knowledge of fire equipment and its use. Each member must equip his car with a red light and siren and display his Box 21 emblem on the vehicle.

The club has an excellent alerting system and most members have short wave radio sets in their homes and cars. Their work is credited with saving many lives at fires, floods and drowning calls. A year ago the city commission and mayor issued a resolution of appreciation to the club as a token of Box 21's outstanding community work.

We could use more of the level-headed thinking and activities of clubs like this.

That's about "30" again for this month. Hope you get your club secretaries to work on an outline of your group's work. And you lone buffs, too, send along your stories to me at 419 Napoleon St., Playa del Rey, Calif.

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Obituaries

Arthur E. Chambers, Retired Yonkers Chief, Dead

Former Yonkers, N. Y., Fire Chief Arthur E. Chambers, Sr., died April 6, 1955, in Northern Dutchess Hospital, Rhinebeck, N. Y. He was 82 years of age and saw over 50 years of service as a fire fighter.

Chief Chambers retired Nov. 20, 1936, as Chief of the Yonkers Fire Department. During his regime the city enjoyed the lowest per capita fire loss in its history. He was the only member of the Department to win the Medal of Honor, its highest decoration.

Before joining the Yonkers Fire Department, he served as a volunteer fireman in Poughkeepsie, with O. H. Booth Hose Co. He was a member of Hudson Hose Company of Yonkers before appointment as a paid fireman, which came on May 1, 1901.

He gained rapid promotion in the Department, being made Lieutenant in 1902, Captain in 1918, Third Assistant Chief in 1921, Second Assistant in 1925 and First Assistant in 1931. He was made Chief on Dec. 25, 1931 upon the retirement of the late James J. Mulcahey, organizer of the department and its first chief.

Chief Chambers retired at 64 under the age-retirement provision, after serving the Department 35 years in various grades. He led every Civil Service list on which he competed, during that time. He was a veteran of three wars, and in World War II he directed fireman-

ship training at Fort Slocum, N. Y.

He was a charter member of the Mutual Aid Association, Yonkers; the Officers Association and War Veterans Association, Y.F.D.; former president of the New York State Fire Chiefs' Association; one of the founders of the Fire Chiefs Emergency Plan of Westchester County, N. Y.; an active member of the International Association of Fire Chiefs, and the Exempt Firemen's Benevolent Association of Yonkers and other organizations.

Captain Dies in Fire House

Captain Eugene Spahr of the Warren, Ohio, Fire Department, died April 7, 1955. He was found dead lying on the floor of the fire station by a member of the oncoming tour about 6:45 P.M., evidently the victim of a heart attack.

Captain Spahr was well-known as an amateur welterweight boxer in the middle 30's. He joined the department in 1937 and rose to the rank of captain in 1947.

George F. Cobb Dead

George F. Cobb, 78, formerly traffic manager of the International Association of Fire Chiefs, passed away at St. Augustine, Fla., on March 28, following a heart attack.

A graduate of Roxbury Latin School and Wilbraham Academy, he went into the lumber business in Boston, Mass., in 1905, associated with the Pope and Castle lumber yard in Chelsea. He joined Curtis and Pope in 1913, becoming president in 1924.

He became president of the Curtis Lumber Company in 1941 and the Curtis Lumber Corporation in 1946.

Mr. Cobb's hobby was fire prevention and he was kown as one of Greater Boston's most enthusiastic "sparks." He was a member of the Box 52 Association, the Massachusetts Fire Chiefs' Club, and one of the organizers of the New England Fire Chiefs' Association. He often said he was the first man on the scene of a fire in Brookline, where he resided at 61 Summer road.

He also served several terms as state commissioner of Firemen's Relief.

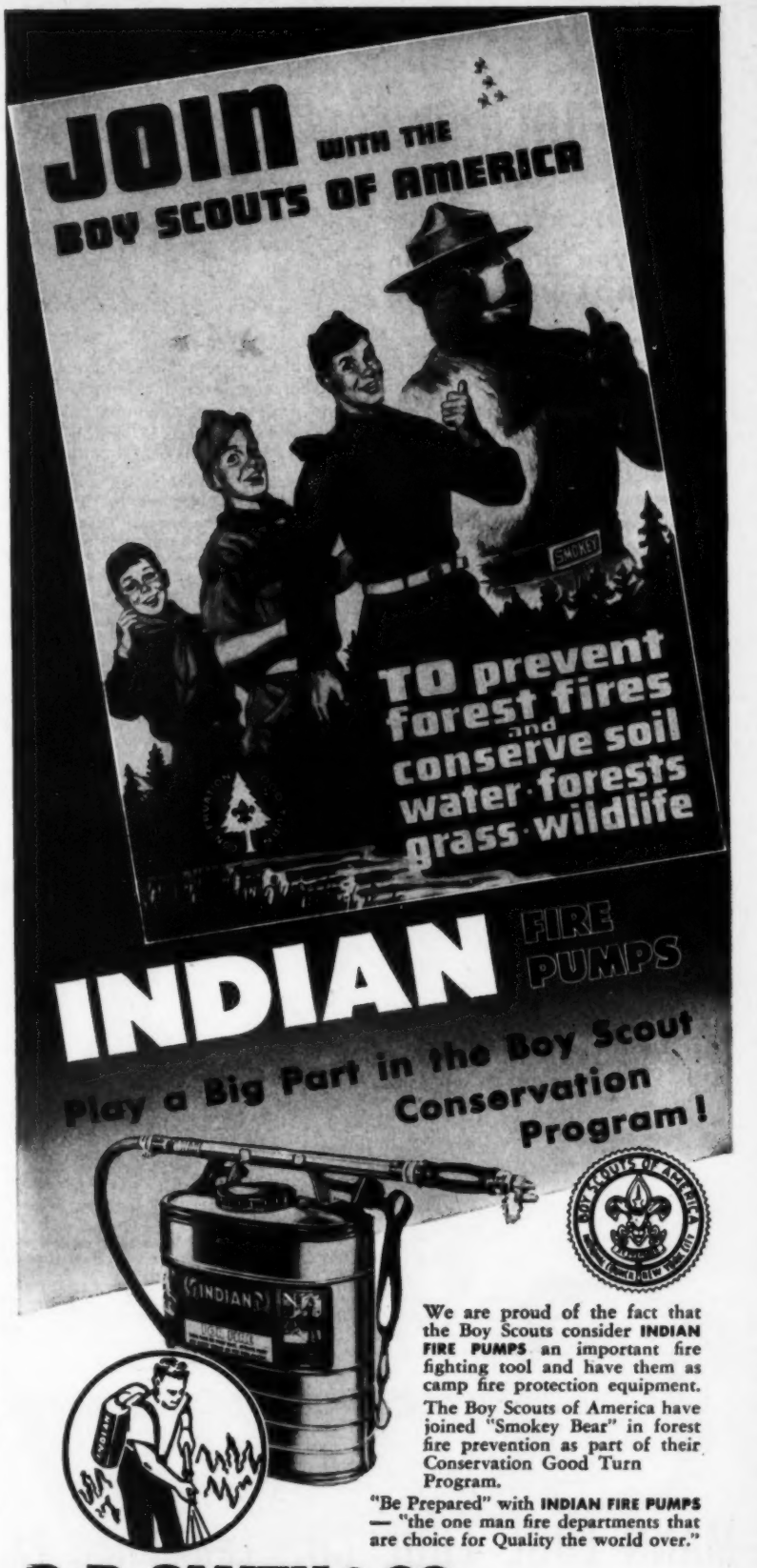
Syracuse Starts "In Service" Inspections

The Syracuse, N. Y., Fire Department, Chief Francis R. Ferren, started a new building inspection program by fire companies as a unit, on February 1, 1955.

Under the program, the driver remains with the apparatus while the rest of the company makes the inspections. The units are at all times in service by means of two-way radio. Upon receipt of alarms from the company district, the driver recalls the men to the rig by siren, and the company thereupon responds.

Signs notifying the public that buildings are being inspected are borne by each company on either side of the apparatus while it stands by, or near, the property being inspected.

At present, inspections are limited to 18 engine and one rescue companies. According to Chief Ferren, the program is working out excellently.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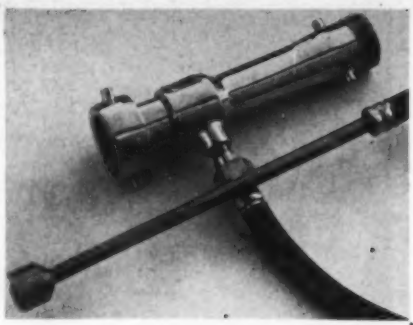

The new McFarland In-Line Proportioner now has the orifice in the pick-up tube attachment. A quick change of the tube gives you either 1% or 2% UNOX Wetter Water on your fire truck, in fixed systems or any fire-fighting line. UNOX is siphoned through the pick-up tube without pre-mixing. No need to put UNOX in truck tanks nor run it through pumps.

Coupled with a UNOX Emulsion Maker Nozzle on the line, here is the easiest, most economical way to extinguish Class A and B fires quickly and effectively.

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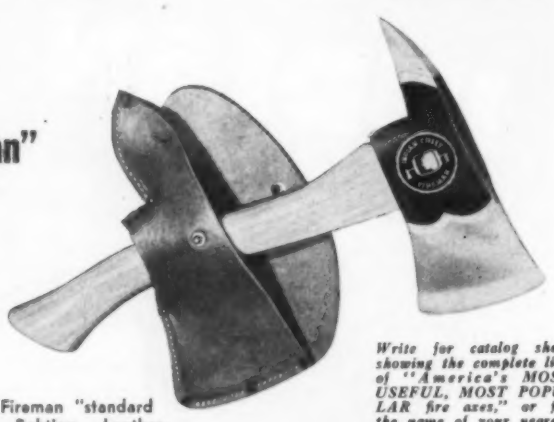

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Persons in the News

E. W. Heller Now Chief At Ann Arbor

On March 1, Ben J. Zahn, Chief of the Ann Arbor, Mich., Fire Department, retired after serving his city for thirty-eight years and seven months.

Appointed to fill his place was Ernest W. Heller, who has completed thirty years in the Ann Arbor Department. Chief Heller was appointed a fireman on October 1, 1924; was promoted to Captain on July 1, 1929; to Assistant Chief on July 1, 1948, and to Chief of Department on March 1 of this year.

Lyon New Chief in St. Louis

Deputy Chief Hugh F. Lyon was named head of the St. Louis, Mo., Fire Department on March 17, 1955. He has been acting Chief since the retirement of Chief Walter H. Kammann on January 10, last.

In announcing the appointment, Director of Public Safety Joseph P. Sestric said Fire Marshal Walter P. Bergman and Battalion Chief Robert W. Quinlivan, with Lyon, were high three on a recent Civil Service examination for the post.

Acting Chief Hugh Lyon, in charge of the St. Louis Fire Department since the retirement of Chief Walter H. Kammann, is shown being congratulated by Mayor Raymond R. Tucker upon being named Chief of the Department.

The city's new chief has been with the department since June 19, 1914. He was promoted to Lieutenant in 1922 and advanced through the ranks of Captain and Battalion Chief to Deputy Fire Chief, the latter on May 1, 1950.

Chief Lyon's great uncle, Chief H. Clay Sexton, was the city's first paid fire chief when the fire department was organized in April 1857, nearly 100 years ago. Chief Sexton was one of the founders of the International Association of Fire Chiefs and its second president.

New Appointments In Burbank

Chief William J. Taylor of the Burbank, Calif., Fire Department has announced the appointment of Capt. Austin Wilkinson as chief inspector of the city's fire prevention bureau.

The appointment resulted in the promotion of Inspector Robert V. Christoffersen

to captain in the Bureau and Fireman Larry Price to inspector.

The promotions came about as a result of the temporary appointment of Chief Inspector Robert Gain to the Civil Defense directorship in Burbank, said Chief Taylor.

PAUL DITZEL

Puddicombe Named Independence Chief

Richard Puddicombe has been elected chief of the Independence, Calif., Volunteer Fire Department, succeeding Stan Biedelman who became assistant chief.

New members of the department named March 20 when the new chief took over included, Jack Riley, Jack Waggoner, Wayne Myrick and Arthur Southey.

PAUL DITZEL

Former Toronto Dist. Chief Joins Etobicoke Dept.

The Etobicoke, Ontario, Council has appointed, to the position of Deputy Chief of their Fire Department, A. Howard Flanagan, who has been a District Chief on the Toronto Fire Department. He served the Toronto department for the past 34 years. Following a survey of the needs of the Etobicoke department by the Ontario Fire Marshal's Department, it was recommended that a deputy chief be appointed, and Chief A. Howard Flanagan was selected.

—JOHN KARL LEE

Rockland Chief Russell Resigns

Fire Chief Van E. Russell resigned April 1 last as head of the Rockland, Me., Fire Department. He was a former president of the Maine State Fire Chiefs Association. He joined the department 27 years ago and was made Chief in 1941.

JAMES F. RULMAN

Inspects American Fire Apparatus

Robert Longworth, Managing Director of Safex, located in Black Gate Drive, Blackpool, England, was in the United States the latter part of April in quest of information on fire equipment, appliances and apparatus.

He was associated with the National Fire Service during the war and is today active in the International Fire Service field.

Ray Straeter Writes Book on Arson

Raymond L. Straeter, investigator in charge of the Los Angeles Fire Department's arson bureau, recently published a book which advance reports indicate will quickly become the "bible" of the arson field.

The book, "Arson Detection and Investigation," contains nearly 200 pages and is available at $4 a copy at 7019 Bonsallo Avenue, Los Angeles 44, Calif.

Captain Straeter is nationally known as an expert in his field and is frequently called upon to instruct arson investigators in other fire departments, at universities, and he is equally-well-known

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FEATURES

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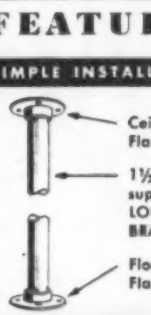

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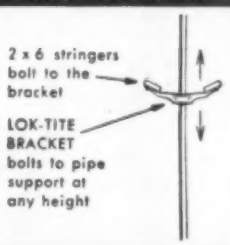

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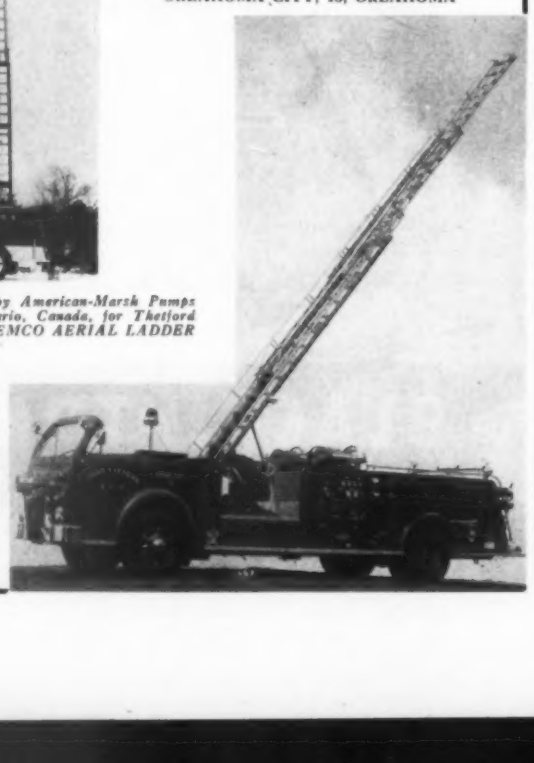


Photograph on the right through the courtesy of American Fire Apparatus Co., Battle Creek, Michigan, who built this up-to-date Aerial truck for the Thad Stevens Volunteer Fire Dept., using a 50' MEMCO AERIAL LADDER

as a lecturer at the Institute of Arson Investigation at Purdue University.

The book is designed to fill a gap in the field. Material for it was gathered and correlated by Captain Straeter in his role as a faculty member at the University of Southern California fire school.

Capt. Straeter's new book has already been made an assigned textbook at USC.

He became a member of the Los Angeles Fire Department in 1936 and, two years later, joined the arson bureau. He has been in complete charge of the 10-man bureau since 1938.

"Techniques of Arson Investigation" was written in collaboration with Dr. C. C. Crawford, a nationally recognized writer, educator and expert on training programs.

Chief Engineer John H. Alderson of the Los Angeles Fire Department writes in a foreword to Captain Straeter's volume:

"Captain Straeter is, in my opinion, the outstanding expert in this field in the United States. This book is recommended for any person, any department or any organization which may be interested in the techniques of arson investigation."

PAUL DITZEL.

Salvage

(*Continued from page* 417)

mains a novelty in the house of Manhattan's Fire Patrol No. 3, at 240 West 30th Street.

During this period the Patrol continued to enlarge its personnel and improve its methods and equipment. Shortly before the close of the Civil War a steam pumping engine was added to its equipment to facilitate de-watering flooded basements. By the time the volunteer fire department was replaced by the paid force, the Patrol had added horsepower to all its vehicles, which were increased in size to accommodate more covers and men.

In 1868, Patrol No. 3 came into being and was located on West 29th Street. The year before, in 1867, the Fire Patrol received its formal Magna Charta and recognition of its rights and duties by act of the New York State Legislature. On May 16 of that year, the Board of Fire Underwriters was chartered and granted power "to provide a patrol of men, and a competent person to act as Superintendent, to discover and prevent fires, with suitable apparatus to save and preserve property or life at and after a fire; and the better to enable them so to act with promptness and efficiency, full power is given to such Superintendent and to such Patrol to enter any building on fire, or which may be exposed to or in danger of taking fire from other burning buildings, at once proceed to protect and endeavor to save the property therein from the ruins after a fire."

By the same act of the legislature, every fire insurance company doing business in the city, whether a member of the Board or not, was compelled to pay a tax upon its premium income, within the city limits, to support the Patrol, which heretofore had been financed by voluntary contributions.

Under the new charter, Alfred Carson was appointed Superintendent of the salvage corps, as it came to be known. He was a former chief engi-

neer of the fire department and a prominent, courageous public official, well-known for his temperate habits, sarsaparilla being his favorite beverage. From this he was affectionately known by the old volunteers as "Old Sarsaparilla."

The double set of officers and men which worked on alternate nights was abolished in 1870, and individual companies, doing day and night duty, were established in each Patrol house. A special reserve was provided for extra night duty.

During the extremely bitter winter of 1874-75, it is recorded the Patrol covered the streets at night, mounted on horseback. They won the sobriquet of "Cowboys," but they stuck to their jobs, despite the rigorous weather.

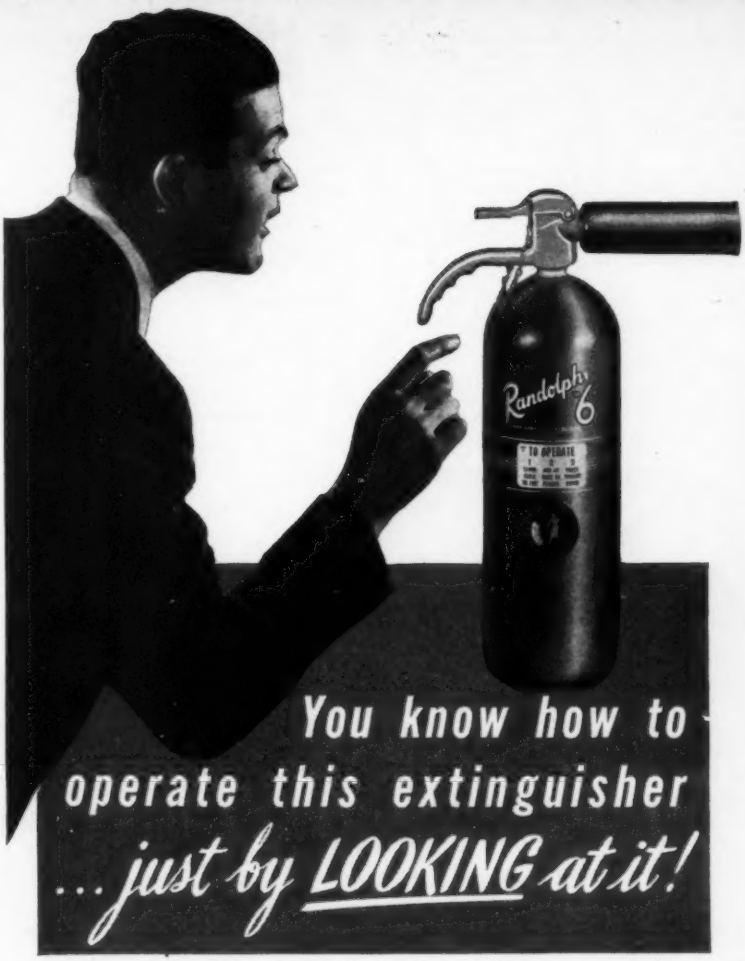
A fourth Patrol was established in 1876, located at 59th Street, and a fifth unit set up in Harlem in 1891. The sixth company came into being in 1901 in the area of the Bronx. Company 7 was formed in Manhattan in 1906. The regulation uniform for all officers and men of the new Patrol was adopted in 1882.

In the earliest days of the organized Patrol, each man did actual patrol duty. In addition, the men acted as their own "alarm system." Each man was stationed at a post somewhere in the city and equipped with a loud rattle which he would sound when a fire was discovered. The signal was passed from post to post until it finally reached headquarters, whereupon the reserves would turn out, pulling the little old "Pie Wagon" behind them. The "rattle watch" as they were called, is said by some historians to mark the first "fire alarm" in the city.

The Brooklyn Salvage Corps was organized in 1895, and followed the same general pattern of its New York prototypes. Three companies were established in 1905.

In 1910, control of the Brooklyn Corps was placed in the hands of the Committee on Fire Patrol of the New York Board of Fire Underwriters. Thereafter, all salvage units in the

Tides like this will always exist, where firemen have to resort to Niagaras of water to control a fire, as will the need for trained, efficient salvage corps.



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Greater City worked as members of a single organization.

Today, the Uniformed Force of the New York Fire Patrol consists of 212 officers and men. It is under the direct supervision of a Superintendent. There are three fire patrol stations in Manhattan, three in Brooklyn and one in the Bronx. Three of these stations have two sections, or crews, and can answer two alarms simultaneously. The men work a staggered 48-hour week and answer alarms in Manhattan, in Brooklyn, and that portion of the Bronx south and west of the Bronx River. The Boroughs of Richmond and Queens are not covered by the Patrol, but the New York Fire Department Chief Officer in charge of a fire may put in a request for Fire Patrol assistance anywhere in the city if federal, state, or municipal property is involved, and if the Patrol services would be of value.

Operating under a public charter, the Patrol is obligated to protect all property, uninsured as well as insured, and it does not attempt to make any distinction. At a matter of fact, a 1945 survey showed that three times as much uninsured as insured property was saved by the Patrol during that year.

Meanwhile, other cities had organized insurance salvage corps and patrols. Louisville was one of the first to vie with New York in this respect. Other cities included Chicago, Boston, Cincinnati, Albany, Baltimore, Kansas City, Memphis, Newark, Philadelphia, St. Louis, Worcester, Duluth, Indianapolis, Milwaukee, Minneapolis, Mobile, New Orleans, Providence, St. Paul, San Francisco, etc.

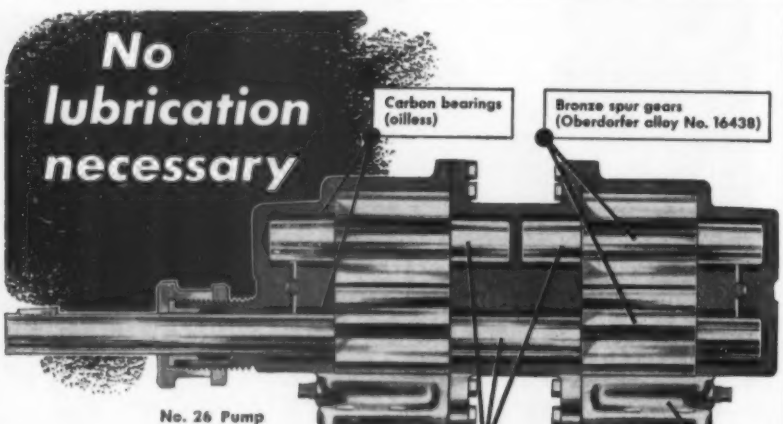
In 1934, the fire insurance companies reportedly spent a total of $1,700,000 for salvage operations. The corps were organized locally and financed by assessments. The National Board of Fire Underwriters acted as a clearing house of information and advice. It still does so although gradually the insurance-owned and directed salvage corps and patrols are going out of business and their functions being taken over by the individual municipal fire departments.

Eleven Patrols Still in Existence

As mentioned, New York City has reduced the number of Patrols from ten to seven. Today, the cities in which insurance companies still operate the service are Albany, Baltimore, Boston, Chicago, Cincinnati, Kansas City, Memphis, New York, Philadelphia, St. Louis and Worcester, Mass. Chicago and Philadelphia have reduced the number of stations, and further reductions are under consideration.

This development does not in any way imply any failure on the part of the insurance patrols to reduce fire losses through efficient salvage. Nobody has been able to figure out how much property such salvage activities have saved, but it is known to be many times the cost. The underlying factors for the change in policy on the part of the insurance companies will be discussed later.

In passing, an inkling of the work done by the New York Fire Patrol alone may be drawn from figures released by the New York Board of Fire Underwriters' Committee on Fire Patrol. Twenty years ago the committee reported the total number of alarms attended from 1869 to 1923, inclusive, were 248,306. More recent data are not immediately available, but the New York Fire Patrol alone in 1954 responded to a total of 16,555 alarms. During that time its personnel engaged in salvage operations a total of 11,710 hours. Its vehicles traveled 53,210 miles. It should be added, also, for the record, that during the period 68 of its men were injured in line of duty.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No. 26 Pump
Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)

the new

OBERDORFER

BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.

Dairy

(*Continued from page* 426)

do a better rural fire fighting job. Latest consideration is two-way short-wave radio. Also a separate fireproof building to house the apparatus, and a separate well to insure ample water in case of a serious fire in the dairy itself.

"Since we have had our fire truck" John Tate explains, "two rural fire districts have been organized around Boise, but we still get a lot of calls. "I suppose," he quipped, "if we ever do have a fire here at the dairy, it will be when the truck is 20 miles away."

The respect with which folks of the area hold the Triangle Dairy Fire Department is illustrated by an incident that occurred while the unit was speeding out of town over icy roads. The tire chains, an important winter accessory, broke. A service station attendant replaced them. "Assistant Fire Chief" Pete Onederra told him to send a bill to Triangle Dairy. "How many people have you ever billed for fighting a fire?" the attendant asked. "None," said Onederra. "O.K." was the reply, "You'll get no bill from me."

What's Burning

THE following list includes fires of $10,000 and over in the United States and Canada for the month of April, 1955.

Month Ending April 30, 1955

Huntsville, Ala. — Reliable Furniture Co. destroyed.
Greenwood, Ark.—S. V. Stroud Lumber Co. plant damaged.
Warren, Ark.—Building occupied by Bienville Furniture Manufacturing Co. destroyed.
Canyon, Cal.—Linda Vista Steak House and Bar, two miles east on U. S. 66 destroyed.
Concord, Cal.—Hagstrom supermarket in downtown section destroyed.
Fullerton, Cal.—Transa Homes Corp. destroyed. Exploding butane gas tanks.
Lodi, Cal.—Stokely-Van Camp warehouse being converted into a cold storage plant damaged. Acetylene torch.
Los Angeles, Cal. — David Crystal Co., fruit preserving plant damaged.
Morgan Hill, Cal.—Rambling ranch house of Oscar Mellin on remote Croy road destroyed.
Oakland, Cal.—Monarch Lumber Co., Oakland Estuary damaged. Itinerants smoking.
San Francisco, Cal.—National Lead Co. warehouse damaged. Static electricity in lacquer room.
San Francisco, Cal.—Apartment buildings, 1418 Larkin Street and 1480 California Street damaged.
San Francisco, Cal.—Ferry building and slips damaged. Acetylene torch.
San Jose, Cal. — Appleton & Co. boys' store damaged.
San Jose, Cal.—Cheim Lumber Co., Prime Rib Restaurant, Pacific Steel & Hardware Co. and Falstaff Brewing Co. damaged. Children playing with matches.
San Jose, Cal.—Santa Clara Valley Paper Co. warehouse destroyed.
Walnut Creek, Cal.—Acree building housing department store, insurance agency, liquor store and doctor's office damaged.
Colorado Springs, Colo.—Dining hall at Colorado Congregational Conference's LaForet campgrounds in Black Forest destroyed. Oil burning furnace.
Ansonia, Conn. — Warcholic Building housing stores, dance hall and several apartments, destroyed.
Plainfield, Conn.—Central Hotel in Central Village, destroyed. Short circuit. .
Stamford, Conn.—Interiors of Humpty-Dumpty Toy Store, Sai Wu Restaurant, Coppola Fur and Dress Shop and Christian Science Reading Room, destroyed.
Belle Glade, Fla.—Telephone Central Exchange damaged. Arson.
Jacksonville, Fla.—Southern Wood Preserving Co. plant damaged.
Atlanta, Ga.—Paper Company warehouse on Glenn Street at Southern Railway Underpass destroyed.
Aurora, Ill.—Barns at Aurora Downs track, four miles north damaged.
Chicago, Ill.—Humboldt Park Hotel damaged.
Chicago, Ill.—Business building at 6443-57 N. Sheridan Road damaged.
Chicago, Ill.—Green Mill Hotel destroyed. Arson.
Chicago, Ill.—Factory of Town Showcase & Cabinet Co. damaged.
East St. Louis, Ill.—Walworth Co. foundry damaged.
Freeport, Ill.—Second National Bank building housing a drug store, restaurant and offices destroyed; adjacent building housing Ruhls ready-to-wear store and nearby F. A. Read department store damaged.
Prospect Heights, Ill.—L-Nor cleaning shop and laundry destroyed; hardware store, owned by Fire Chief Floor, grocery, lunch bar and Joe's barber shop damaged.
Greenfield, Ind. — Main section of Maxwell School, five miles north, on State Route 9 damaged.
Indianapolis, Ind. — Holliday House damaged. Defective wiring.
Indianapolis, Ind.—Building occupied by Purves Mfg. Co. and Scope Inc., furniture makers; All-Weather Window Corp. and Splender, Inc., metal door manufacturers damaged.
Marion, Ind.—Herbst Grain Co. elevator, eight miles southwest damaged. Arson.
Muncie, Ind.—Two warehouses of Kirby-Wood Lumber Co. destroyed.
South Whitely, Ind.—Grain elevators of Mayer Grain Co. destroyed.
Syracuse, Ind. — Interior of Wawasee Inn, a summer resort hotel on south shore of Lake Wawasee destroyed.
Vincennes, Ind.—Offices at Liquid fertilizer plant

SOMETHING NEW HAS BEEN ADDED

CIRCUL-AIR
"A-Z"
FIRE HOSE
WASHER

- Washes and Drains in One Operation
- Cleans Thoroughly—With or Without Detergent
- Uses Clean Water Throughout Process
- No Immersion Tanks to Collect Sediment
- Semi-Automatic—One-Man Operation
- Low in Cost—Easy to Use
- Keeps All Hose Off the Floor—Wet or Dry—Clean or Soiled
- Loading Turn-Tables useful also for Re-Loading Hose Truck and Dryer

The new, inexpensive A-Z Hose Washer drains and rinses the hose as it washes. 4 Roto-jets constantly spray hose with clean, fresh water—all sediment is flushed through collecting pan and down the drain. Can be used with or without soaps or compounds. Semi-automatic, the A-Z is operated by just one man. The brisk action of the cleaning brushes moves the hose slowly through the washer. No strain. No fatigue. Turn tables keep the hose OFF the floor. They're excellent for re-loading truck (several lengths may be stacked on each) or loading the hose dryer.

Write for New Folder

CIRCUL-AIR HOSE CONDITIONING EQUIPMENT

The patented, electrically operated Circul-Air hose dryer circulates pre-warmed fresh air through loosely coiled hose at the rate of 5 to 6 air changes per minute. Saves floor space, hard work and lengthens hose life!

No other method is so fast—so economical—so easy to use. If *you* haven't enjoyed the benefits of Circul-Air, we suggest you investigate its merits now.

THESE TOWNS . . . AND 3000 OTHERS PROTECT THEIR HOSE WITH CIRCUL-AIR

Atlanta • Akron • Allentown • Augusta • Boston • Birmingham • Binghamton • Cincinnati • Cleveland • Columbus • Chicago • Corpus Christi • Dayton • Detroit • Erie • Fort Smith • Flint • Galveston • Houston • Ithaca • Jacksonville • Kalamazoo • Kansas City • Louisville • Lafayette • Memphis • Milwaukee • Miami • Monroe (La., Mich.) • Montreal • Niagara Falls • New Haven • New Britain • New Orleans • Nashville • Oklahoma City • Omaha • Philadelphia • Providence • Pensacola • Rochester • Seattle • Savannah • Springfield • Shreveport • Toledo • Topeka • Utica • Washington • Wheeling • Winnipeg • Youngstown

LABORATORIES APPROVED

ACCEPTED • APPROVED • RECOMMENDED

Accepted as the preferred drying medium in most of America's largest fire departments . . . *Approved* by leading testing laboratories, including Underwriters' Laboratories . . . and Canadian Standards Association. Recommended by fire hose manufacturers and Fire Chiefs "all over America and Canada."

If you are planning to build — or remodel — send for our new brochure "Fire Station Design."

THE CIRCUL-AIR CORPORATION

575 EAST MILWAUKEE DETROIT 2, MICHIGAN

For VALUE...

Specify HALE

Why do users of Hale Fire Pumps specify "Hale Pump" when they buy new apparatus?

Because these men have learned through practical experience HALE VALUE in terms of:

• Dependability • Flexible Performance • Efficiency

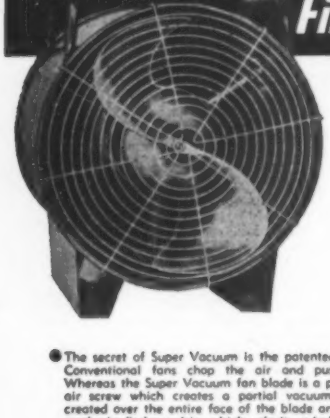
For 40 years Hale-equipped Fire Pumpers have upheld a high standard of dependability . . . a dependability that has won the respect of users all over the world. Hale Fire Pumps are sold only through Manufacturers of Quality Apparatus.

HALE FIRE PUMPS are built in all STANDARD CAPACITIES

Write today for NEW FOLDERS on Hale Fire Pumps . . . built in all standard capacities.

HALE
FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

Revolutionary New Principle Increases Fire-Fighting Efficiency!



●The Super Vacuum Smoke ejector is a powerful portable fan unit designed especially for fire departments. This design is a new and revolutionary principle in moving air. Several thousand Super Vacuum Smoke ejectors are in use throughout the United States and Canada. Controlled ventilation is new and very necessary in fire fighting. Years of service and satisfied users are your best guarantee for any merchandise.

●The secret of Super Vacuum is the patented fan blade. Conventional fans chop the air and push it back. Whereas the Super Vacuum fan blade is a perfect spiral air screw which creates a partial vacuum, suction is created over the entire face of the blade and the air or smoke is discharged in a high velocity spiral. There are no dead spots—that is why Super Vacuum outperforms other fans twice its size.

Write for Additional Information or Contact Your Local Fire Equipment Dealer

MANUFACTURED EXCLUSIVELY BY

Super Vacuum MANUFACTURING CO.

319 East 17th Avenue • Denver 3, Colorado

of Liquillizer Corp., south of city limits damaged.

Bedford, Ia.—Building housing Rialto Theatre and building occupied by Ben Scane plumbing shop and Wogan electric appliance shop, and tavern destroyed.

Ottumwa, Ia.—Building housing Ottumwa Mill & Construction Co. plant damaged.

Lawrence, Kans.—Downtown Trinity Episcopal Church damaged.

Topeka, Kans.—Two warehouses owned by Whelan Lumber Co. and used for storage of building materials destroyed.

Louisville, Ky.—Gem Gift Shop, jewelry and novelties damaged.

Lake Charles, La.—Gas well, 10 miles northeast on Lake Charles destroyed.

New Orleans, La.—Warehouse occupied by Crescent Chemical Co. destroyed. Galvez Street wharf, owned by New Orleans Dock Board damaged. Explosions.

Ashland, Maine—Ashland Trust Bank building destroyed.

Skowhegan, Me.—House, barn and chicken shed owned by Winston Foster; 19,000 chickens owned by Penobscot Poultry Company destroyed.

Waterville, Me.—Templeton Hotel and adjoining business block of Masoud Harb damaged.

Lexington Park, Md.—Greenland Gardens Night Club, several miles north on Route 234 destroyed.

Parkville, Md.—Building occupied by Parkville Pharmacy and Parkville Men's Shop destroyed. Explosion.

Salisbury, Md.—Building of C. A. Swanson & Son Co. destroyed.

Belmont, Mass.—Belmont Hill of Jordon Patkin destroyed. Arson suspected.

East Boston, Mass.—Two warehouses of National Dock and Storage Warehouse Co., leased to Cubel Paper Co. damaged.

North Attleboro, Mass.—Waste paper and junk storage of Max Suvall & Son destroyed.

Grayling, Mich.—Grayling restaurant, E. R. Burns hardware and Emil Krause 5 and 10 cent store destroyed. Electric fryer explosion.

St. Clair Shores, Mich.—Jefferson Beach amusement park buildings destroyed.

South Haven, Mich.—Hi-Ly Restaurant and Bar on Highway US-31, a mile north, destroyed.

Tawas City, Mich.—Barnes Hotel destroyed.

Three Rivers, Mich.—Three Rivers High School, in St. Joseph County community destroyed.

Austin, Minn.—Creamery and livestock building on Mower County Fair Grounds destroyed.

Bloomington, Minn.—T & O Plastics plant destroyed.

Mankato, Minn.—Bradford Sales Barn destroyed. Faulty wiring.

Midland, Mich. — Brom indigo plant of Dow Chemical Co. damaged. Explosion.

Waseca, Minn.—Boat plant of Herter, Inc. destroyed.

Winthrop, Minn.—Winthrop's only hotel, and bowling alleys owned by Gay Brandvoid destroyed; People's Meat Market damaged. Lightning.

Biloxi, Miss.—The plush Grove Club, located midway between Biloxi and Gulfport, on Highway 90 destroyed. Lightning.

Louisville, Miss.—Two Graham Hardware warehouses destroyed and two other buildings damaged.

Liberty, Mo.—Banks-Wilcox Lumber Co. destroyed.

Pagedale, Mo.—Illinois Materials Corp. damaged.

Poplar Bluff, Mo.—Southwest Missouri Grocery Co., destroyed.

Sidney, Mont.—Mayhew Machine & Supply Co. plant destroyed.

Portsmouth, N. H.—Warehouse of Richard M. McFarland and junk storage of Zaitland Bros. destroyed.

Asbury Park, N. J.—Ansonia Hotel destroyed.

Clifton, N. J.—Industrial building occupied by several firms damaged.

East Paterson, N. J. — Modern Crafts Co. damaged.

Hackensack, N. J.—Petrulo's Everglades Restaurant damaged.

Jersey City, N. J.—Hart Chemical Co. damaged.

Milltown, N. J.—Warehouse of New Brunswick Rug Co. destroyed.

New Market, N. J.—Plastic plant of Irwin Industries destroyed.

Perth Amboy, N. J.—Roth & Schlenger Auto Supplies damaged.

Port Newark, N. J.—Pier 27, four barges and considerable lumber belonging to U. S. Navy damaged.

Sussex, N. J.—Sussex Textile Products destroyed.

West New York, N. J.—Hartley Dress Shop damaged.

Babylon, N. Y.—Babylon Theatre destroyed.

Ellenville, N. Y.—Main building of Robin Hood Inn, a summer hotel, a mile south in Catskill Mountain foothills. Kitchen of Nevele Hotel damaged.

Monticello, N. Y.—Forestburgh Inn, a summer hotel on Route 42, seven miles west destroyed.

Saratoga Springs, N. Y.—Downtown business and apartment building, housing a paint store,

bar, furniture storeroom and apartments destroyed
Thompson Ridge, N. Y.—Feed store destroyed.
Goldsboro, N. C.—Tin warehouse occupied by Wayne Poultry Co. destroyed.
Maiden, N. C.—Maiden Flour Mill, Inc. destroyed.
Morehead, N. C.—Mansfield Lumber Co. destroyed.
Sanford, N. C.—Patterson Packing Co. meat plant, three miles west on U.S.-421 destroyed. Bucket of hot tar overturned.
Winston-Salem, N. C.—Building in heart of business section housing Dewey's Bakery, electric service company, Harrell's photo studio, Willis barber and beauty shop, Grace's tailor shop and Hunt's electric shop destroyed.
Davenport, N. D.—Peavey Elevator and three adjoining buildings, damaged. Explosion.
Akron, Ohio—Warehouse and sales office of Foam Rubber Sales, Inc., subsidiary of Maxwell Products Co. damaged.
Dayton, Ohio—Kennett's Department Store damaged.
Elmore, Ohio — Elmore Hardware Store and Reynolds Plumbing Shop destroyed.
Piketon, Ohio—Northgate Inn, men's dormitory damaged.
Piqua, Ohio—Four buildings occupied by G. Neil Flower Shop, Merle Norman cosmetics studio, Post Office Restaurant, and Cap Whitney's sporting goods store damaged.
Willoughby, Ohio—Daniels Bros. Fuel Co. damaged. Spark from oil distributor under repair.
Aumsville, Ore. — Willamette Building Supply Door plant destroyed.
Corvallis, Ore.—Oregon State College turkey farm destroyed. Short circuit.
Grants Pass, Ore.—Bar-B-Que Building Cafe destroyed.
Gresham, Ore.—Columbia Brick Co. damaged. Short circuit.
Gresham, Ore.—Elks Club building offices destroyed.
Hermiston, Ore.—Home Plumbing building destroyed. Faulty wiring.
LaGrande, Ore.—Union County Powder House destroyed; business buildings damaged.
McMinnville, Ore.—Garage of H. A. Fredericks Motor Co., Chevrolet dealers destroyed.
Portland, Ore. — Meier & Frank Department Store damaged. Incendiary bomb.
Bridesburg, Pa.—Evans Specialty & Machine Shop and Deruss Machine products Co. destroyed. Explosion.
Carlisle, Pa. — Line and Line jewelry store damaged.
Easton, Pa. — Eastern Motor Sales garage damaged.
Lancaster, Pa.—Welded Products Co. plant, east of city limits destroyed.
Sharpsburg, Pa.—Pittsburgh Metal Processing Co. plant destroyed. Steam boiler.
Uniontown, Pa.—Brown Derby Restaurant, 18 miles east on U. S. Route 40, Fayette, destroyed.
West Pen Argyl, Pa.—Mill of Doney Slate Co. destroyed.
Lincoln, R. I.—Barn "T" at Lincoln Downs race track destroyed.
Columbia, S. C.—Dreher Packing Co. plant damaged. Steam boiler.
Nashville, Tenn.—J. B. Thomas Manufacturing Co. plant destroyed. Escaping acetylene gas, touched off by sparking electric motor.
Dallas, Tex.—Old William B. Travis School destroyed. Arson.
San Antonio, Tex.—Saint Peter Prince of the Apostles' Church destroyed.
Bluefield, Va.—Twin City Cafe, adjoining Lee Theatre and Cecil's Market, in center of business district destroyed.
Bowling Green, Va.—Two restaurants, two barber shops, 10-cent store, shoe shop, two drug stores, office building, jewelry shop, hardware store, clothing store, garage, two electrical appliance stores, grocery, barn and apartments on U. S. 301 in business district destroyed.
Grundy, Va.—S. & S. Department Store, restaurant and dress shop damaged.
Richland, Wash.—Richland "Y" Gas Station, destroyed. Explosion.
Walla Walla, Wash.—W. P. Fuller Paint Co., Russell Candy Co., Singer Sewing Machine and Magary Optical Co. damaged.
Yakima, Wash.—Guy Henry's sawmill destroyed.
Spooner, Wis.—School gymnasium, stage and three classrooms destroyed.
Fort St. Johns, B. C.—Trinity Canadian Mines office destroyed.
Quesnel, B. C. — Quesnel Power Commission plant damaged.
Kentville, N. S.—Aldershot army camp base hospital damaged.
Ottawa, Ont. — Chalmers United Church destroyed.
Simcoe, Ont.—International Cooperage Co. plant destroyed.
Thornton, Ont.—Dwelling, garage and storehouse, owned by Art McQuay destroyed.
Toronto, Ont.—Garage of Howard Bacon Cartage Co. damaged.
Montreal, Que.—Ile Perrot furniture factory of Legault Furniture Co., Ltd. destroyed.
Anchorage, Alaska—Flight kitchen at Elmdorf AFB destroyed.

when lights can save lives

Your Choice of an Engine-Generator IS IMPORTANT

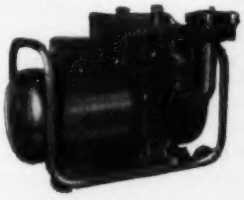
That's why—before you buy *any* engine-generator *you should examine* the models developed by United States Motors Corporation especially for fire fighting, safety and utility.

Each unit rests firmly on a foundation of over 65 years of engineering and manufacturing experience and world-wide installations in fire fighting equipment.

Fast-starting dependability . . . rugged, light-weight construction, complete simplicity—yet wide adaptability as a source of power for lights, electric saws, drills, suction fans, acetelyene cutting and other fire-fighting requirements where dependability is *essential*.

For that "little extra" that can mean "so much," U. S. Units carry a generous "overload capacity."

Check U. S. Motors before buying *any* engine-generators. U. S. builds complete line from 200 watts to 250 KW stationary, mobile or portable, gas, gasoline or diesel fuel. Write for complete details.



Typical light weight, compact 2500 Watt Unit. 300 Models to choose from.

UNITED STATES MOTORS CORPORATION — LIGHT US POWER — OSHKOSH • WISCONSIN

United States Motors Corporation
420 Nebraska Street **Oshkosh, Wis.**

433
GAS HAZARDS

. . . and How to Overcome Them!

As a practical help to anyone who is confronted with the problem of hazardous gases, mists, fumes, smokes and dusts, ACME offers this valuable Protection Guide. It lists 433 of these hazards along with the ACME Gas Mask Equipment designed to give you dependable protection in each specific case. This vital information is available exclusively through ACME. Write for your copy today.

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...the Only
GAS MASK
with "Picture Windows"

You never have that "horse-blinder" feeling with the ACME Full-Vision Gas Mask. Its patented larger lenses provide full, natural vision with greater comfort along with protection you can rely on. Other ACME features include easier breathing, less fogging, and increased audibility. There's an ACME Mask to provide the right protection for every hazard such as those listed in the Protection Guide. Write for Bulletins 541 and 542 describing ACME canister gas mask equipment.

ACME PROTECTION EQUIPMENT COMPANY
1215 Kalamazoo Street
South Haven, Mich.

Reservoir Empty—Fire Spreads

Sparks from a broken light bulb ignited a tank of gasoline, causing a fire that destroyed the Sinn Farm Machine Shop and badly damaged the nearby VFW home in Paulding, Ohio, March 9, 1955. The loss totalled $100,000.

Fire fighters were hampered in their operations by repairs being made to the local water works reservoir, which was empty at the time. They stretched 7,000 feet of hose from a creek to the fire. The Township Fire Department was aided by forces summoned from Oakwood, Antwerp, Payne, Grover Hill and Sherwood.

The fire had a fast start when the ignition of the gasoline blew the roof from the one-story, concrete machine shop, scattering sparks which ignited the VFW building directly behind it.

The fire, which started about 4:00 P.M., was fought for over two hours before being controlled.

Thanks JAMES F. RULMAN.

N. Y. Teaches Radio Procedure

A new course in the Fire Training Program of New York State on Radio Procedure is proving popular. In Orange County, Coordinator Brundage reports 470 firemen have received certificates for attendance. Included were all 25 officers and 111 drivers and firemen from the Port Jervis Fire Department.

School Fire

(*Continued from page* 424)

various rooms from above and below. Actually it was a slow burning fire, as its travel was hindered by many closed doors and passageways in the basement.

Shortly before 10 P.M. Chief Bennar again issued a call for aid. Pumpers from Enola, Midway of Enola, and New Cumberland were called, from an average distance of eight miles west and southwest. New Cumberland responded with a tanker. These companies located on the four-tenth mile stretch from the small stream on the west side of the fire scene, and were able to deliver water up the hill at intervals. Every once in a while they shut down to let their small dam refill, as the stream could not supply the 2½-inch relay continually.

By 10:30 P.M. the roof was gone, and the front section was reduced to a shell. The main fire was then in the auditorium, and a single classroom on each flank. Here firemen were aided by a firewall between the old and new sections of the school, with the only openings between two wide doorways.

Chief Bennar then "wrote off" the front section, with only two companies standing by to guard against flying sparks. He placed solid ranks of firemen in hallways leading from each of the two doorways of the old section into the new. Here, with a maximum of twelve 1½-lines in operation, and an additional three lines of the same size on the roof, the fire was held. Overhaul operations were continued until the next morning. By 2 A.M., fire companies were being relieved, but the original relay wasn't broken down until 8 A.M.

In the final stages, firemen had to dig out walls, and crawl into underfloor spaces, and track the fire into a number of odd places before it was completely extinguished.

Cover Picture

One of the most spectacular fires in years helped complete the work of Chicago wreckers on April 1, 1955, when a six story brick building, formerly used as a manufacturing plant, which was in process of being torn down to make way for a super highway, was consumed.

The cause of the fire, for which a "5-11 alarm" was sounded soon after 5:00 P.M., was not determined but the possibilities of arson were not ruled out.

The fire raged out of control until about 10:30 P.M. that evening, despite the mobilization of a heavy complement of men and apparatus. Fire fighting was limited to exterior operations, and the use of deck pipes and water towers, streams from which were directed into the blazing structure from all sides.

A heavy smoke blanketed a two-mile square area near the plant, dimming the daylight and slowing up travel.

Cover photo and this photo by Stephen Lasker

Chicago fire fighters operate on blaze in doomed building.

News of the Manufacturers

(*Continued from page 427*)

(a) As a local public address system. Man in truck talks into microphone. Message is reproduced by the high power speaker. Using the equipment in this manner does not prevent monitoring of radio messages coming in from the base station.

(b) As a "wireless microphone" public address system. Talk from a remote location via a portable "Handie-Micro-Talkie" transmitter or a "Handie-Talkie" radiophone. Messages are received by the radio and reproduced by the high power speaker.

(c) For two-way conversation between man in truck and man at remote location equipped with "Handie-Micro-Talkie" transmitter. Each hears the other's messages over the high power speaker.

(d) For two-way conversation with base station or other two-way mobile units. When microphone is switched to normal radio transmission, messages are beamed back to the base station via mobile's antenna instead of being reproduced by the speaker. Receiver volume control adjusts sound level of messages from base station.

For more information, write to Motorola Communications and Electronics Inc., Technical Information Center, 4501 W. Augusta Blvd., Chicago 51, Illinois.

New Traffic Control System for Moline

A new type of automatic traffic control system has just been installed in Moline, Illinois, according to city engineer, Allan Hallberg.

It is said the new system, "Monotrol," handles the week's traffic program of up to 60 signal changes by means of existing 2-wire interconnecting cable. This avoids tearing up streets and installing 9 to 12 wire cable between master and local controllers.

"Monotrol" Traffic Control System

With existing 2-wire cable, the system allows fire, police and ambulance routes to be opened up immediately on request of the driver of the moving emergency vehicle. He calls for the desired route by radio-phone and an attendant pushes a button on the master controller, which immediately opens up the route with a string of green lights. In addition, unexpected changes in the time cycle,

Get into action FASTER with...

Fyr-Fyter

SUPER FYR-FLEX 600 & 400

it's made with DACRON! The new, stronger, synthetic fibre load-carrying "filling" cord.

it's 25% LIGHTER! Easier to carry . . . easier to handle. Gets into action faster!

it's more FLEXIBLE! Easier to coil and uncoil . . . cuts loading time. Permits storing more hose in truck bed.

it's 50% STRONGER! 600 & 400 lb. test . . . withstands 50% more pressure than any hose of the same diameter.

For *faster* fire fighting action, get Fyr-Fyter's new Super Fyr-Flex . . . the fire hose that now outmodes conventional hose! Its exceptional strength without bulk, made possible with Dacron reinforcing "filling" cord, plus its lightness and flexibility, gives you top performance efficiency. And for longer life and economy, Super Fyr-Flex provides a new high in resistance to heat, chemicals, water absorption, mildew, abrasion, and wear. Plan now to take advantage of the performance extras you get in Super Fyr-Flex fire hose . . . write for complete information today!

TEAR OUT THIS COUPON AND MAIL WITH YOUR LETTERHEAD TODAY!

☐ Send full details on Fyr-Fyter Super Fyr-Flex Hose.

☐ Send your 60-page Fyr-Fyter Accessory Products Catalog.

☐ Send a Fyr-Fyter Representative. Let's talk it over, No obligation.

DEPT. 10 FF-2

The Fyr-Fyter (FIRE) (FIGHTER) Co.

221 CRANE STREET, DAYTON 1, OHIO

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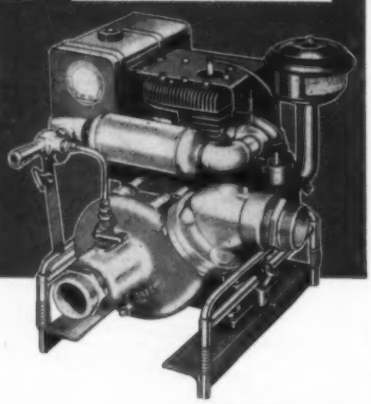
BRANCH OFFICES: *New York, Boston, Philadelphia, Chicago, Atlanta, Dallas, San Francisco, Portland, Seattle.*

THE DUAL FIRE FIGHTER



DUAL FIRE FIGHTER
PUMP MODEL 6201-FF

EASILY CARRIED BY TWO MEN

When fire strikes, the fire location or water supply may be inaccessible to the truck pumper. QUICK ACTION of the GORMAN-RUPP DUAL FIRE FIGHTER will aid you in reducing fire losses.

The DUAL FIRE FIGHTER weighs only 162 pounds. Easily carried by two men, it has often brought fires quickly under control when the truck pumper was unavailable.

Used as a booster pump, or to fight fires direct, this light, portable pump starts throwing water in less than a minute. The unit requires little room on the pumper, but plays a big part in effective fire protection.

Proved a valuable and necessary piece of equipment, for any fire department, the small but mighty GORMAN-RUPP DUAL FIRE FIGHTER gets water to the fire . . . FAST!

- **AS A BOOSTER.** Extends the range of your pumping truck. Will deliver 175 g.p.m. through 300 ft. of 2½ in. hose to the top of a hill 50 ft. high.
- **DIRECT PUMPING.** Highly mobile, the DUAL FIRE FIGHTER goes into action wherever needed — drawing water from lakes, streams, ponds. Will throw 100 g.p.m. at 80 lbs. or 80 g.p.m. at 88 lbs. pressure — capacity sufficient to supply two 1½ in. lines.

Ask for Bulletin No. 9-FD-11

THE GORMAN-RUPP COMPANY
MANSFIELD, OHIO

necessitated by road conditions, are made by dialing a number.

Other functions reported are offsetting of lights at successive intersections to speed traffic flow, favoring heaviest traffic with a greater percentage of green lights, flashing of red and amber on off hours—all controlled from a central point. "Monotrol" is a recent development of the Eagle Signal Corporation, Moline, Illinois.

Moline city engineer Hallberg reports that numerous traffic engineers from other cities have inspected the "Monotrol" system in Moline and have been much impressed. The next cities to install this type of system will be Galesburg, Ill., and Waltham, Mass.

New Pressurized Water Type Fire Extinguisher

The first Underwriters' Approved pressurized water type fire extinguisher has just been announced by Elkhart Brass Mfg. Co., Inc., Elkhart, Indiana. This is the first extinguisher of its type using only air-pressure. On the spot re-charging is done by replacing the water and pressurizing by air the same as an automobile tire.

Elk-Air pressurized water type extinguisher.

This new unit, named the "Elk-Air," is easy to operate. Valve controlled, the operator merely pulls pin, directs hose nozzle and squeezes handle to release stream. The valve control permits stream to be turned on or off, conserving water and eliminating excess water damage.

A pressure gauge indicates if extinguisher is ready for action. When the gauge arrow is in the green dial section, extinguisher is ready. Arrow in the red section indicates need for servicing with air pressure and water. The extinguisher can be held or placed on floor to operate.

The unit gives full capacity use of the 2½ gallons of water and will maintain a steady stream length of from thirty-five to forty feet, until water supply is exhausted. The extinguisher has a removable fill tube with anti-overfill feature. The extinguisher is constructed of seamless brass drawn shell with all brass forged parts.

got enough EARS?
BE ON THE CONSTANT ALERT
All Departments Can Now Listen to Every Vital Message

MONITORADIO for a thoroughly coordinated 2-way communication system.

Now every member of every department can have radio communication for as little as $49.95

Write today for further information.

- Nation's most complete line of monitor receivers.
- Crystal controlled or tunable for any VHF FM communication system.
- Mobile or stationary receivers.
- Prices to meet any budget.
- Certified for civil defense use.

MONITORADIO RADIO APPARATUS CORPORATION
7900 Pendleton Pike, Indianapolis, Ind. Phone: CHerry 2466

The extinguisher can also be supplied with an anti-freeze charge. A smaller extinguisher will be available soon for homes, schools and many other uses where space and weight are limiting factors.

Schildknecht Joins Fire-End Products

Fire-End Products, New York, wholesalers of fire fighting equipment, has appointed Arnold Schildknecht as Manager of its newly formed Inside Fire Protection Division, serving the contracting and the plumbing trade, it was announced recently.

Arnold Schildknecht

Mr. Schildknecht has worked in this phase of the industry for 27 years, more recently having been associated with the Croker Fire Prevention Corporation. Anthony J. Sposato, General Manager of Fire-End Products, in making the announcement, stated that the increase in volume in the construction field necessitated the creation of this new division.

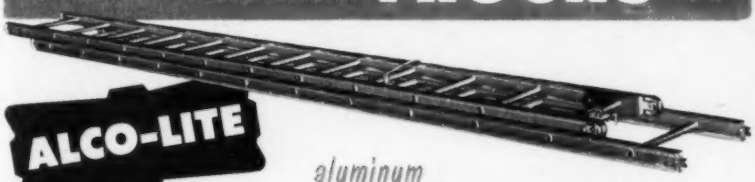
This new move, as explained by Mr. Sposato, will enable the concern to offer its services to the entire market for these products.

Franklin James Joins Ward LaFrance

Franklin James (left) of Allentown, Pa., was recently named Manager of the New Products Division of the Ward LaFrance Truck Corporation, Elmira Heights, N. Y. Congratulating him is F. Norman Tracy, Vice President and General Manager of the Corporation. Mr. James has over 25 years automotive and fire apparatus engineering and sales experience. He was formerly with Mack Manufacturing Corp., at Allentown as Manager of their Fire Apparatus Division.

Franklin James (left), Manager of the New Products Division, and F. Norman Tracy, Vice-President and General Manager of the Ward LaFrance Truck Corporation.

NEW! for short wheelbase PUMPER TRUCKS

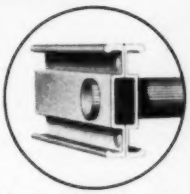


ALCO-LITE aluminum

Pumper Extension Ladders

Fits most brackets designed for wood ladders.

Here's the ideal replacement for your outmoded wood ladders. Built of high tensile strength aluminum alloy, these ALCO-LITE Pumper Truck Extension Ladders will stand up under the severest use. They are built with exclusive ALCO-LITE know how. They are easy to lift, easy to use, and require almost no maintenance. They can't rust, rot, warp or burn.



Corrugated 1" heavy aluminum rungs are securely attached to the side channels by means of exclusive ALCO-LITE expansion bushing construction.

ALCO-LITE aluminum

Pumper Roof Ladders

Complete your Pumper Truck ladder needs with this ALCO-LITE Pumper Roof Ladder. It's the perfect companion to the PEL Ladder. The nested thickness of these two ladders is 6⅞". It is equipped with folding steel hooks. A perfect pair for your truck.

WRITE TODAY!

ALUMINUM LADDER COMPANY
Dept. S
Worthington, Pa.

Please send me further information about ALCO-LITE PEL, PRL, and other aluminum fire ladders.

NAME _____

COMPANY _____

ADDRESS _____

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For the Very Best in Southern California

ESTABLISHED IN 1932 Scott FOR SAFETY—FOR SERVICE

Contact Halprin for Quality Paks

Breathe Fresh, Cool Air . . .

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SEND FOR FREE FULL LINE CATALOG M-200

HALPRIN SUPPLY CO.

1355 South Flower St., Los Angeles 15, Calif.

Champion Fire Apparatus

A highly efficient pumper apparatus with the Champion Three Stage Centrifugal Pump powered by Diamond T. The Pump is the Type SH750 which delivers 750 gallon Underwriter performance plus 60 gallons per minute at 850 lbs. for high pressure fog.

Or this Darley Apparatus is also available in Underwriter capacities of 1000 GPM and 500 GPM. Modern commercial truck motors have adequate power for either 1000, 750, 600 or 500 GPM pumps.

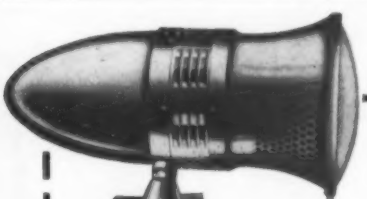
A few Territories open for Sales Representatives. Write us.

Write for Fire Apparatus Booklet and Fire Equipment Catalog

Factories—Chicago and Chippewa Falls, Wis.

W. S. DARLEY & CO., CHICAGO 12

AT YOUR SERVICE: Sales and Service Representatives—East, Midwest, North, South



MODEL 20 SIRENLITE for Emergency Vehicles

Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

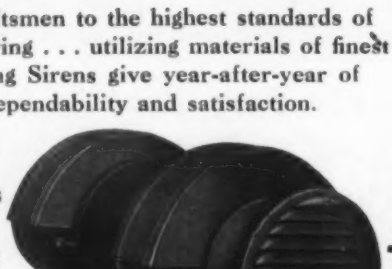
STERLING SIRENS

- **HANDSOME**
- **RUGGED**
- **RELIABLE**

Built by proud craftsmen to the highest standards of precision manufacturing . . . utilizing materials of finest quality . . . Sterling Sirens give year-after-year of unsurpassed dependability and satisfaction.

MODEL M GENERAL FIRE ALARM SIREN for Volunteer Systems

Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.



Complete line of Siren Equipment • *Bulletin on Request*

THE STERLING SIREN FIRE ALARM CO., INC.
10 BARTLETT ST., ROCHESTER 8, N. Y.

A.D.T. Protection

"Protecting Life, Property and Profits," an illustrated 36-page booklet for those interested in protection against fire, burglary and other hazards, has recently been published by American District Telegraph Company.

The multicolored, pocket-size booklet graphically describes the many ADT Central Station Electric Protection Services supplied to more than 52,000 subscribers in approximately 650 municipalities throughout the United States. Copies may be obtained by writing to ADT, 155 Sixth Avenue, New York 13, N. Y.

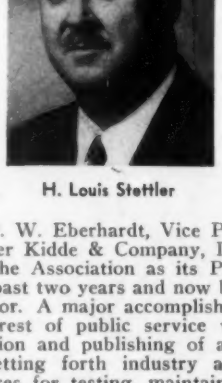
Dixon V.P. of National Foam System, Inc.

At the March meeting of the Board of Directors of National Foam System, Inc., West Chester, Pa., John S. Dixon, Jr., was elected a vice president of the company.

Mr. Dixon, previously assistant secretary, has been instrumental in expanding the company's production facilities to meet a growing demand for National's fire-fighting foam products.

Manufacturers Elect

The Fire Equipment Manufacturers' Association, Inc., representing the producers of all types of portable fire extinguishers and extinguishing agents, has elected H. Louis Stettler, Jr., Executive Vice President of Elkhart Brass Mfg. Co., Inc., as President. To assist him in carrying forward the Association's program of public service to prevent fire through the use of proper fire extinguishing agents and equipment, the following officers were elected: 1st Vice President — Paul R. Larimer, General Sales Manager, Ansul Chemical Company; 2nd Vice President—R. L. Weir, General Sales Manager, The General Detroit Corporation; Treasurer — Paul Nurkiewicz, Vice President, Stop-Fire, Inc.; Commissioner—Offices of Hanson & Shea, Inc.



H. Louis Stettler

Mr. P. W. Eberhardt, Vice President of Walter Kidde & Company, Inc., has served the Association as its President for the past two years and now becomes a Director. A major accomplishment in the interest of public service was the preparation and publishing of a Safety Code setting forth industry approved procedures for testing, maintaining, inspecting, and recharging all types of portable fire extinguishers. Copies of the books are available at 50c each by writing the Fire Equipment Manufacturers' Association, Inc. at 813 Clark Building, Pittsburgh 22, Pennsylvania.

(*Continued on page* 468)

Volunteer Fire Department

(*Continued from page* 412)

from the constitution the section or sections referring to the duties of that office and signify his intention to perform such duties. It shall be the duty of the vice-president to see that all meetings and drills and other department business are conducted in conformity with the constitution and by-laws."

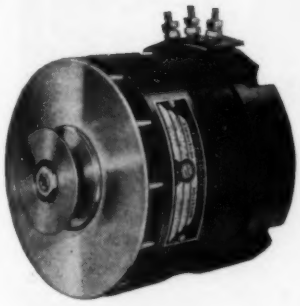
A constitution and by-laws should be prepared with an eye toward trouble that may arise in the future. Some provisions that seem to have little value at present may become very essential in the future. They should always be approved officially by the governing body in order that any provisions they contain delegating the authority of that body will be binding. They should not be too easy for the department to amend or limit and all amendments should always be subject to the approval of the governing body. They should provide for legal protection of the department and its members against damage suits.

The constitution and by-laws must be a help, not a handicap, to the Chief in maintaining the efficiency of the department. For instance, the Chief should have the authority to appoint his assistants, rather than having the department elect them. The Fire Chief is the one responsible for the efficiency of the fire department. It is imperative, therefore, that he have as his assistants, men who will work with him, men who are willing to assume the responsibility of his position when he is not present.

The constitution and by-laws must provide for the proper selection of new men. The Fire Service must have the right to pick it's own men. Too fequently the choice of new men is made haphazardly by Civil Service Boards, city officials, or one or two department members simply because he is a buddy. You are, perhaps, first interested in the health of the applicant. As one Fire Chief puts it, "We can make cripples out of them fast enough, without taking on new members in poor health." New members should have average mental ability. We should not be too concerned with what they might know about fire fighting; our job is to teach them this. We should be very concerned with their personalities. We should use methods in choosing men that will eliminate putting on firemen who will turn out to be chronic gripers and trouble makers. Under the usual methods of choosing new firemen, the Chief has to be a psychologist in order to cope with the adverse personalities of the men under him. Perhaps we should give personality tests to the applicants' wives. The fireman who has a troublesome wife will more than likely be a troublesome fireman. Some of you may say, we have a hard enough time getting manpower without raising the qualifications. However, the raising of the standards or the upgrading of any job, usually results in more applicants than lowering the qualifications. We have found this to be particularly true in smaller communities. When a Chief says, "This is a small town and there are not enough men who want to be firemen, so we take anybody we can get." That is usually just what they get, anybody and nobody. In other communities of the same size where they set out qualifications and limit membership, they usually have plenty of

For
AMPLE Electric Power . . .

Leece-Neville ALTERNATORS



SAVE THE BATTERY! L-N Alternators will carry the radio, siren, lights: up to 95 amps for 6-volt systems; to 180 amps for 12-volt systems; to 100 amps for 24 volt systems.

CHARGING CURRENT WITH ENGINE IDLING At the fire, L-N Alternators produce up to 40 amps with engine idling, keep batteries "up", permit use of 2-way radio.

110 VOLT CURRENT L-N Transformer gives up to 1200 watts at 110 volts . . . current for flood lights, half-inch drill, power saw.

AND A NEW ALTERNATOR AT SENSATIONAL LOW PRICE For Chief's car look into the new L-N Alternator System that *costs less* than "extra" output d.c. generator.

For all the facts write The Leece-Neville Company, Cleveland 14, Ohio. *Distributors in principal cities . . . Service Stations everywhere.*

ON YOUR NEW UNITS SPECIFY LEECE-NEVILLE EQUIPMENT, FACTORY-INSTALLED

YOU CAN RELY ON Leece-Neville

ALTERNATOR SYSTEMS • GENERATORS
STARTING MOTORS • REGULATORS • SWITCHES
FRACTIONAL HP MOTORS

TRUCK · BUS · DIESEL · INDUSTRIAL · PASSENGER · RAILROAD · MARINE · OFF HIGHWAY

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MORE EFFECTIVE FIRE PROTECTION

CITY • RURAL • FOREST

MODEL 6600 PUMPER—Instantly Self-Priming—No waiting when seconds count
HIGH PRESSURE—Use one or two hard-hitting streams or fire-blanketing fog-spray
LIGHT WEIGHT—Easily carried to source of water or fire area
NEOPRENE IMPELLERS—Pump dirty water as well as clean water—assure long life
POWER—Efficient 4-cycle, air-cooled 5 HP engine known and serviced world-wide
BY-PASS VALVE, SPRING LOADED GREASE CUP, NO LOSS OF PRIME, PLUS MANY OTHER FEATURES

WEIGHS ONLY 110 LBS.

UP TO 40 GPM AT 150 PSI

MARINE PRODUCTS COMPANY
515 LYCASTE AVENUE • DETROIT 14, MICHIGAN

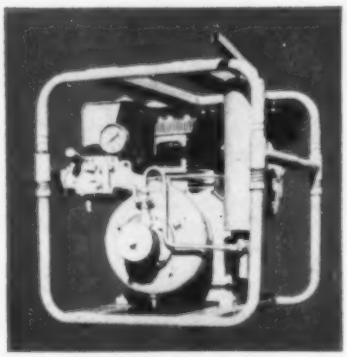
Fight Brush Fires From Moving Truck with a Hale Type FZZ PORTABLE PUMPING UNIT!

Picture below shows fire-fighter handling stream from a Hale Type FZZ Portable Pumping Unit mounted on a moving truck. An FZZ can be mounted permanently on truck or carried as a portable unit for pumping into or from booster tank. This portable arrangement is extremely useful both for fighting brush, field or forest fires while in motion; or for pumping from pond, stream or well direct.

An FZZ will supply from draft 2 capable fire streams thru 1½" lines. Performance substantially exceeds NBFU and NFPA capacity and pressure requirements.

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. Also available mounted on two wheels or on rubber-cushioned steel channels. Note: Discharge Adapter can be supplied for use with 2½-inch hose.

Write today for new FZZ Folder.
Let us know if you want a demonstration.

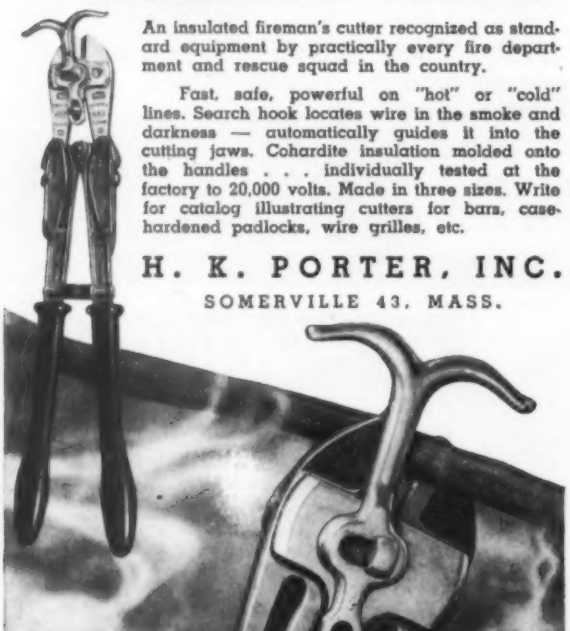


HALE FIRE PUMP CO.
Conshohocken, Pa.
Fire Pumps in All Standard Capacities

Nip Brush Fires in the Bud with a HALE FZZ

HKP

PORTER FIREMAN'S CUTTER



An insulated fireman's cutter recognized as standard equipment by practically every fire department and rescue squad in the country.

Fast, safe, powerful on "hot" or "cold" lines. Search hook locates wire in the smoke and darkness — automatically guides it into the cutting jaws. Cohardite insulation molded onto the handles . . . individually tested at the factory to 20,000 volts. Made in three sizes. Write for catalog illustrating cutters for bars, case-hardened padlocks, wire grilles, etc.

H. K. PORTER, INC.
SOMERVILLE 43, MASS.

good men on the waiting list.

The constitution and by-laws should provide for a definite and deep chain of command No volunteer department should attempt to operate without a chain of command, at least five officers deep. Some departments have learned this the hard way, by being called to fight a fire with all of the designated officers absent. They tell me it is quite a sight to see a group of firemen fighting a bad fire and all going in different directions. Lines of authority and responsibility should be made as definite and direct as possible. Everyone in an organization should know where he fits into the organization pattern. He should know his superiors and his proper relation to them. Good intentions, or mere cooperation, is not enough to be effective, cooperation must be directed. A good way of keeping your organization pattern before the Department is to have it on a large board on the wall of the fire station. This gives each man visual confirmation of his position in the department. It serves as a picture of the chain of command in the department. Many departments use this plan of having a wall chart, but many of them make the mistake of having the names painted on; as a consequence when changes are made it may be 6 months to 10 years before these changes show upon the board. A better plan is to have the board set up with the titles permanently lettered and the names on inserts. Then when changes of men becomes necessary, they show up on the board immediately. Have a place on the board for recruits and when you take on a new man, get his name on the board. You can tell a man he is on the department, but it does not mean as much as when his name is up there on the wall. Remember, seeing it is believing it. His name is there and he can see the ladder he must climb if he wants to advance in the department.

The most active your department is, the more you will need a board that you can change easily. The active department always has a more rapid turnover than the inactive department. When you make changes, pay attention to ability and interest rather than seniority. In paid departments, where fires are frequent enough that accumulated experience becomes a factor, seniority has a place; but in volunteer departments we must rely more on ability and interest. Remember, our job is not to "coddle" some man simply because he has been around a long time, but to maintain an efficient fire fighting organization. Do not mistake these statements as being critical of older men in the fire service. The older men are the most valuable men we have, as long as their minds remain young and active.

Regular meetings and drills should be set on definite nights and penalties established for the lack of attendance. Too many times we hear this statement, "We don't have many men at our meetings, but, they sure turn out at the fires." A fireman who attends fires only and skips meetings and drills will not be as asset to the department. On the other hand, firemen should not be expected to attend the meetings merely for the purpose of answering roll call. A volunteer fireman has the right to expect that when he gives his time to attend the meeting that it will be a purposeful meeting and he will be a better fireman for having attended.

The constitution and by-laws should

provide for rules of order and an order of business for the conduct of regular meetings. The manner in which these meetings are conducted is so important that you can judge a department's efficiency by attending one of these meetings.

When duties are assigned, such as the checking of the trucks and equipment, steps should be taken to protect the men doing the checking from their own laziness or procrastination. The following is a provision that accomplishes that aim. "A large report form shall be placed on the wall of the Fire Station. This form shall list all of the points on the equipment that are to be checked, and spaces shall be provided for the inspector to place a check mark behind each item and sign and date his row of check marks."

The important thing here is that the man who makes the inspection has to sign his name. When he signs his name after checking each item, he puts himself on record as having made the inspection, and it is much more liable to be adequate.

In conclusion, I would like to state that there is no valid reason I know of for any community, regardless of size, for not having a well equipped, active and efficient fire department. And yet, we have many communities where this is not the case. Any Chief who is not willing to give the time and effort, who does not have the ability to bring his department up to par, should retire and turn the job over to someone else. In many cases the new man couldn't do any poorer job, and might do a lot better.

A man who hangs on year after year as Chief of a dead department merely for the honor, or whatever reason, is depriving his town of the kind of fire protection that it is entitled to. He is depriving the members of the department of the many forms of compensation, other than money, that come from membership in an active department.

If the Chief is willing to give the time and effort, the job can be done. Help is available from many different sources if he will avail himself of it.

Gas Explosion Wrecks Home of TV Star

Two bottled gas tanks exploded in the East Meadow Road home of TV actress Martha Raye at Westport, Conn., on April 4, starting a fire which damaged the garage, breezeway and kitchen. A volunteer fireman, Irving Wilmot, was overcome by smoke but revived by an oxygen inhalator at the scene.

Miss Raye said damage to the house would amount to $12,000, and is covered by insurance. Fire Chief Harold F. Shipley said a leak was found in one of the outside tanks. Miss Raye, who was waching TV at the time, fled to safety with her Boxer dog, Maggie. With her in the house were her butler and maid, Mr. and Mrs. Roosevelt Teems, and her secretary, Gerry Miller.

Firemen from Central and Vigilant stations in Westport, who responded to the alarm, found the whole side of the garage adjoining the house in flames. Miss Raye, one of the leading TV comediennes, said she was "scared to death" when the blast occurred. She praised the work of Westport firemen in limiting the damage.

TOM MAGNER

CHIEF POWHATAN—

Sachem Leader Line Shut-Off Nozzle
For Direct Connection to 1½" Hose

Base Thread: 1¼" or 1½"
Discharge End Thread: Standard chemical

Waterway .....13/16"
Tip discharge range.....¼" to ¾"
Standard nozzle tip discharge.....½"
Overall length with tip.....8¾"
Approximate weight .....4 pounds
Finish: Polished bronze or chromium plated.

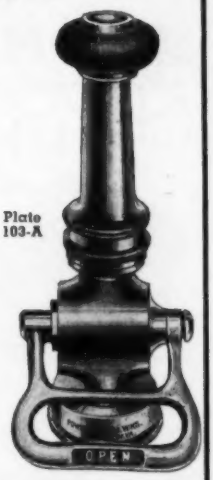


Plate 103-A

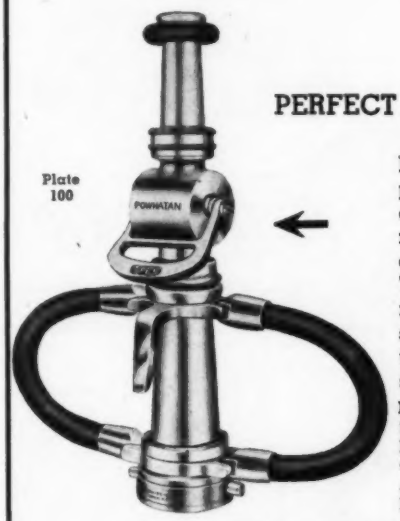


Plate 100

PERFECT COMBINATION PLAY PIPE
With Plain Tip

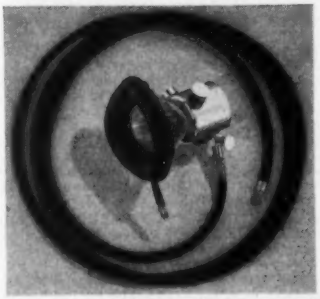
Base Thread: Any 2½" fire department thread. Discharge end of play pipe and base of shut-off nozzle: Underwriters' tip thread or any 1½" fire department thread. Tip end of shut-off regularly furnished threaded 1½" national standard thread, but other 1½" threads can be furnished when specified.

Nozzle tip discharge range.....⅜" to 1¼"
Standard nozzle tip discharge.....1"
Maximum nozzle tip discharge.....1¼"
Overall length of assembly.....18½"
Approximate weight .....18 pounds
Finish: Polished or chromium plated.

Send for a copy of our new Catalog

POWHATAN BRASS
and IRON WORKS
RANSON, WEST VIRGINIA
Phones 93 & 94 Charles Town, West Virginia
Established 1892

TREAT MORE PATIENTS WITH YOUR E & J RESUSCITATOR
by adding



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MICRO EXTENSION UNITS

Complete, independent resuscitation-inhalation treatment for two- or three-patient emergencies. Write for details.

E & J MANUFACTURING COMPANY, 100 E. Graham Pl., Burbank, Calif.

For STAMINA
Specify the

LEONARD
Rotary Gear
PUMP

★ The Better Apparatus Pump!

Easy to install, rugged and sturdy to the extreme! Leonard pumps are guaranteed. Deliver 150 GPM at 150 pounds.

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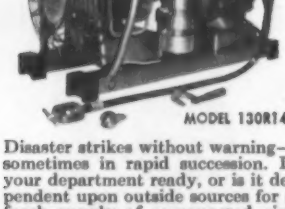
AMERICAN FIRE EQUIPMENT CO.
717 BOYLSTON STREET, BOSTON 16, MASS.



Disaster strikes without warning—sometimes in rapid succession. Is your department ready, or is it dependent upon outside sources for a fresh supply of compressed air? Have a Cornelius air compressor always available for charging high pressure breathing equipment air tanks. Economical to own and to use. *Write for free illustrated catalog today.*

THE CORNELIUS COMPANY
556 39th Ave. N.E., Minneapolis, Minn.

Convention Dates

May 20-21—MARYLAND FIRE COLLEGE. Seagrave Pump School, University of Maryland, College Park, Md. For information write Robert C. Byrus, Director, Fire Service Extension, P. O. Box 85, College Park, Md.

May 21—ILLINOIS FIRE CHIEFS ASSOCIATION. Summer conference, Jacksonville, Ill. Secretary, Chief Charles Bickler, 9 N. Spring St., Elgin, Ill.

May 22 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at Tecumseh, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

May 23-24—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Galveston, Tex. Secretary Treasurer, Dr. B. J. Barrodale, Houma, La.

May 23-25—NORTH CAROLINA FIRE COLLEGE. Annual meeting, Charlotte, N. C. For information, contact the Director-Conductor, Chief Charles L. Burkett, Fire Headquarters, Salisbury, N. C.

May 23-25—ANSUL FIRE SCHOOL. To be held at the Ansul Chemical Company's test field in Marinette, Wis. For information, contact Director Fire School, Ansul Chemical Company, Marinette, Wis.

May 23-27—CALIFORNIA FIRE SERVICE INSTRUCTORS CONFERENCE. Annual meeting, Fresno, Cal. Director, T. S. Ward, Supervisor of Fire Training, State Department of Education, Sacramento, Cal.

May 23 to June 24—FLORIDA STATE FIRE COLLEGE. First of two sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

May 24-27—IOWA STATE FIRE SCHOOL. Annual meeting, Iowa State College, Ames, Ia. For information, contact Mark Brosier, Supervisor Firemanship Training, 110 Marston Hall, Ames, Ia.

May 27-28 — MARYLAND FIRE COLLEGE. Hale Pump School, University of Maryland, College Park, Md. For information, write Robert C. Byrus, Director, Fire Service Extension, P. O. Box 85, College Park, Md.

May 29 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at Sutton, Neb. Director, Otto T. Johannes, 2604 Twelfth Street, Columbus, Neb.

May 29-31—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual meeting, Clemson, S. C. President, Chief C. A. Fischer, Sr., Fire Headquarters, Orangeburg, S. C.

May 30-June 3 — ALABAMA STATE FIRE SCHOOL. Annual meeting, University of Alabama, University, Ala. Director, M. O. Halsey, Assistant State Supervisor of Trade and Industrial Education, P. O. Box 1813, University, Ala.

June 1 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at Sutton, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

June 1-3—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Asbury Park, N. J. Secretary, Edwin J. Clark, Box 217, Wayne, Pa.

June 3-4—MARYLAND FIRE COLLEGE. American LaFrance Pump School, University of Maryland, College Park, Md. For information, contact Robert C. Byrus, Director, Fire Service Extension, P. O. Box 85, College Park, Md.

June 4—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Spring meeting, Asbury Park, N. J. Secretary, Clarence H. Dougal, 9 Girard Avenue, East Orange, N. J.

June 5-7—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. Annual meeting, Schroon Manor on Schroon Lake, N. Y. Secretary-Treasurer, Ward A. Bohner, Fire Coordinator, Oneida County, Fire Headquarters, Utica, N. Y.

June 5-8—NEW MEXICO STATE FIREMEN'S ASSOCIATION. Annual meeting, Albuquerque, N. M. For information, contact Chief W. A. Westerfield, Fire Headquarters, Albuquerque, N. M.

June 6-7—GEORGIA STATE FIRE COLLEGE. Instructors' Course, Atlanta, Ga. Director, Harry Phillips, Director of Vocational Service, State Department of Education, 642 Killian Street, Atlanta, Ga.

June 6-10—CONNECTICUT FIRE COLLEGE. Annual meeting New Haven Fire Department Training Ground. Director, L. W. Eddy, Supervisor Service Training, State Department of Education, Box 2219, Hartford, Conn.

June 6-10—SOUTH DAKOTA STATE FIRE SCHOOL. Annual meeting, Deadwood, S. D. Director, Joseph I. Fetters, Administrative Assistant, University of Missouri, Columbia, Mo.

June 7-8—INDIANA FIRE DEPARTMENT INSTRUCTORS' CONFERENCE. Annual meeting, Indianapolis Fire Department Drill School. For information, contact Francis Hartman, Chief of Fireman Training School, Public Safety Institute, Purdue University, Lafayette, Ind.

June 7-9—KENTUCKY FIRE SCHOOL. Annual meeting, University of Kentucky, Lexington, Ky. Director, John L. Thompson, Assistant Manager, Kentucky Inspection Bureau, 940 Starks Building, Lexington, Ky.

June 8-11—COLORADO STATE FIREMEN'S ASSOCIATION. Annual meeting, fire school and tournament, Estes Park, Colo. Secretary, Deputy Chief Arthur J. Becker, 4250 Stuart Street, Denver 12, Colo.

June 9-10—MISSISSIPPI STATE FIREMEN'S ASSOCIATION. Annual meeting, Hattiesburg, Miss. Secretary-Treasurer, Chief E. J. Barksdale, Fire Headquarters, Hattiesburg, Miss.

June 9-11—IDAHO STATE FIRE SCHOOL. Annual meeting, Boise, Ida. For information, write W. F. Roach, Fire Marshal, Fire Prevention Bureau, Boise Fire Department, Boise, Ida.

June 9-11—NORTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION, INC. Annual meeting, Clayton, N. Y. Secretary, James J. Doyle, Jr., 12 Clinton Street, Potsdam, N. Y.

June 10-11—SOUTHWEST VIRGINIA FIREMEN'S ASSOCIATION. Annual meeting, Galax, Va. Secretary, B. C. Goad, Hillsville, Va.

June 10-11 — MARYLAND FIRE COLLEGE. Waterous Pump School, University of Maryland, College Park, Md. For information, write Robert C. Byrus, Director, Fire Service Extension, P. O. Box 85, College Park, Md.

June 12 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at Ogallala, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

June 12—VERMONT STATE FIRE FIGHTERS TRAINING SCHOOL. Regional meeting. Orleans, Vt. Director, W. H. Adams, Secretary-Treasurer, State Fire Fighters Association, Vergennes, Va.

June 13-15—ANSUL FIRE SCHOOL. To be held at the Ansul Chemical Company's test field in Marinette, Wis. For information, contact Director Fire School, Ansul Chemical Company, Marinette, Wis.

June 13-16—ILLINOIS FIRE COLLEGE. Annual meeting, University of Illinois, Champaign-Urbana, Ill. Director, R. K. Newton, Supervisor of Fire Training, University Division of Extension, 725 S. Wright, Champaign, Ill.

June 14-16—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Lexington, Ky. Secretary-Treasurer, Chief G. A. Mitchell, Fire Headquarters, Opelika, Ala.

June 15—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Upper Sandusky, Ohio. Secretary, Earl Campbell, Box 164, Napoleon, Ohio.

June 16-18—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Kingston, N. Y. Secretary, Charles M. Fales, 92 Clove Avenue, Haverstraw, N. Y.

June 16-18—UTAH FIREMEN'S TRAINING SCHOOL. Annual meeting, Salt Lake City, Utah. Director, Don E. White, Assistant Chief in Charge of Training, Salt Lake City Fire Department, 160 East First Street, South, Salt Lake City, Utah.

June 17-18 — MARYLAND FIRE COLLEGE. American Marsh Pump School, University of Maryland, College Park, Md. For information, write, Robert C. Byrus, Director, Fire Service Extension, P. O. Box 85, College Park, Md.

June 18-19—OHIO REGIONAL FIRE SCHOOL. To be held at Lyndhurst, Ohio. Director, Walter T. Banning, 606 Fourth Street, N. W., New Philadelphia, Ohio.

June 19 —NEBRASKA REGIONAL FIRE-SCHOOL. To be held at Chadron, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

June 20-22—ANSUL FIRE SCHOOL. To be held at the Ansul Chemical Company's test field in Marinette, Wis. For information, contact Director Fire School, Ansul Chemical Company, Marinette, Wis.

June 20-23—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, John W. O'Hearn, 206 Mt. Auburn Street, Watertown, Mass.

Convention Dates

June 20-24—PENNSYLVANIA FIRE SCHOOL. Standard Fire Fighting Course, to be held at new Pennsylvania Fire School building, Lewistown, Pa. For information, contact Edgar A. Spotz, Adviser, Fire Service Training, Public Service Institute, Box 911, Harrisburg, Pa.

June 20-24—FIRE AND ARSON INVESTIGATION SHORT COURSE. To be held at the University of California, Berkeley, Cal. Director, T. S. Ward, Supervisor of Fire Training, State Department of Education, Sacramento, Cal.

June 20-25—MISSISSIPPI STATE FIRE SCHOOL. Annual meeting, State College, Miss. Director, Joseph I. Fetters, Administrative Assistant, University of Missouri, Columbia, Mo.

June 22—CENTRAL WESTERN FIREMEN'S CONVENTION. Annual meeting, Eaton, Ohio. Secretary, Don Campbell, 613 N. Cherry Street, Eaton, Ohio.

June 23-24—SASKATCHEWAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Weyburn, Sask. For information, contact Chief, G. M. Beach, Weyburn, Sask., Fire Department.

June 27-29—ANSUL FIRE SCHOOL. To be held at the Ansul Chemical Company's test field in Marinette, Wis. For information, contact Director, Fire School, Ansul Chemical Company, Marinette, Wis.

June 27-July 1—FIRE AND ARSON INVESTIGATION SHORT COURSE. To be held at the University of California, Los Angeles, Cal. Director, T. S. Ward, Supervisor of Fire Training, State Department of Education, Sacramento, Cal.

July 10-15—TEXAS FIREMEN'S TRAINING SCHOOL. Annual meeting, Texas A. & M. College, College Station, Tex. Director, H. R. Brayton, Engineering Service, A. & M. College, College Station, Tex.

July 11-12—GEORGIA STATE FIRE COLLEGE. Arson Investigation Course, Atlanta, Ga. Director, Harry Phillips, Director, Vocational Service, State Department of Education, 642 Killian Street, Atlanta, Ga.

July 11-15—PENNSYLVANIA FIRE SCHOOL. Advanced Fire Fighting Course, to be held at new Pennsylvania Fire School building, Lewistown, Pa. For information, contact Edgar A. Spotz, Adviser, Fire Service Training, Public Service Institute, Department of Public Instruction, Public Service Institute, Box 911, Harrisburg, Pa.

July 11 to Aug. 12—FLORIDA STATE FIRE COLLEGE. Second of two sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

July 12-15—LOUISIANA STATE FIRE MARSHAL'S ARSON AND FIRE PREVENTION CONFERENCE. Annual meeting, New Orleans, La. For information, contact Sidney S. Bowman, Louisiana State Fire Marshal, New Orleans 16, La.

July 12-15—MICHIGAN STATE FIRE CHIEFS ASSOCIATION. Annual meeting, Port Huron, Mich. Secretary, Chief Harry L. Ridout, Fire Headquarters, Muskegon Heights, Mich.

July 16-17—DELAWARE SHORT COURSE FOR FIREMEN. First session, Camden-Wyoming, Dela. Director, Frank M. Forstburg, Delaware State Board for Vocational Education, 511 West 8th Street, Wilmington, Dela.

July 17—VERMONT STATE FIRE FIGHTERS TRAINING SCHOOL. Regional meeting, Bennington, Vt. Director, W. H. Adams, Secretary-Treasurer, State Fire Fighters Association, Vergennes, Vt.

July 18-20—ARKANSAS STATE FIRE DEPARTMENT INSTRUCTORS TRAINING SCHOOL. Annual meeting, Little Rock, Ark. Director, W. A. Turner, State Fire Instructor, State Education Building, Little Rock, Ark.

July 18-20—ANSUL FIRE SCHOOL. To be held at the Ansul Chemical Company's test field in Marinette, Wis. For information, contact Director Fire School, Ansul Chemical Company, Marinette, Wis.

July 23—INTERNATIONAL FIREMAN'S DAY. Annual meeting, Gananoque, Ont. Secretary, Gerald F. Hampton, Gananoque, Ont.

July 23-24—DELAWARE SHORT COURSE FOR FIREMEN. Second session, Camden-Wyoming, Dela. Director, Frank M. Forstburg, Delaware State Board for Vocational Education, 511 West 8th Street, Wilmington, Dela.

July 25-27—ANSUL FIRE SCHOOL. To be held at the Ansul Chemical Company's test field, Marinette, Wis. For information, contact Director Fire School, Ansul Chemical Company, Marinette, Wis.

(Additional dates will appear in the June issue)

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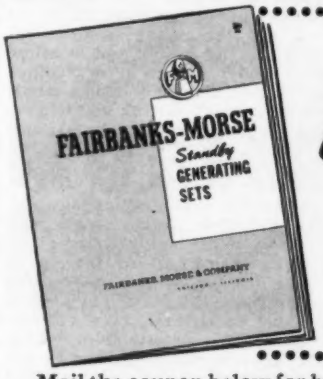

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For Practical Discussion of Current Fire Department and Fire Management Problems

TRAINING FIRE APPARATUS DRIVERS

THE discussion in this Round Table is a continuation of that which appeared in the March and April issues on training fire apparatus drivers.

The generous response from our readers makes it necessary to carry the discussion over to this issue and the June issue as well.

Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Subject

William M. Daly, Acting Commissioner of Fire, Buffalo, N. Y.: The members of the Buffalo Fire Department who are to be assigned as drivers of apparatus do receive special training.

The member of a hook & ladder company who is to be broken in as a driver, drives apparatus back from fires until he is familiar with handling apparatus in traffic. The apparatus is taken out of quarters, kept in service, and the driver is given instructions in the raising and handling of aerial ladder. When he is qualified to drive apparatus and handle aerial ladder, he is given further instructions by the Superintendent of Fire Apparatus. In fact, every member of hook and ladder companies are instructed in the handling of aerial ladder.

Members of engine companies are selected for their fitness for drivers. They stay with regular drivers at fires so as to learn to run the pumps and also drive apparatus back from fires. They are also taken to a place where suction can be taken and instructed in proper method of taking suction. He is then given a test by the Superintendent of Apparatus and qualified as to his fitness.

The average time to train a driver is about 30 days of instruction.

All drivers attend a pump school and are given instructions in operation of pumps by Chief William McGee, Drill Instructor. All prospective officers also attend this school.

Louis R. Spandle, Director, Kansas City, Kans.: Drivers are usually picked from new recruits, who have had heavy equipment experience before entering the fire service.

They are then given road tests and pump operation instructions by the Master Mechanic, who passes on their ability to drive fire equipment as an extra driver.

To become a regular fire driver a civil service examination must be passed by the candidate, which consists of questions on the type of equipment we have on our department, its operation, knowledge of pump operations, city streets, traffic regulations, and some hydraulics.

Fire drivers receive **$120.00 per year** more than fire fighters and must be a member of the department four years before becoming eligible for fire driver's promotion. Also any member of the Department, who wishes to take a captain's promotional examination, must have held position of fire driver or fire lieutenant at least one year before becoming eligible for captain's examination.

M. H. Sutton, Chief, Washington, D. C.: Drivers of apparatus in this department are instructed in driving and operating our apparatus.

Training consists of instruction in driving by previously qualified drivers and special instruction in operation of pumping apparatus or hydraulically operated aerial trucks is given by members of our Training Division.

Members usually qualify within their first year of service but it takes about five years before they are considered competent enough to assume the responsibilities of a regularly assigned driver.

Tests are conducted at approximately six-month intervals and consist of members being required to place apparatus in service under simulated fireground conditions.

Francis T. Scully, Chief, Waterbury, Conn.: All new members are potential drivers. When coming on the job they must have a driver's license. They are allowed to drive the apparatus returning to station from alarms under supervision of officer and regular driver.

When an officer feels a member of

HERE ARE THE QUESTIONS

1. **Do members of your fire department to be assigned as drivers of apparatus receive special training to qualify them?**
2. **Of what does this special training consist?**
3. **What is the average time required to train a driver?**
4. **After they have completed the required period of training, are they subjected to further tests to determine their fitness? If so, of what do the tests consist?**
5. **If no special training is given drivers, how are drivers selected?**

his company is ready to be classified as a driver, our Master Mechanic takes him out for a road test. In order to be a driver he must also be a first class pump operator. Our Drillmaster passes on his qualifications on phases of pump operation. This usually takes about six months.

We have a top grade for Privates known as 1A. In order to attain this grade, all privates must be certified to the Chief by the Master Mechanic. Drillmaster and Company Officer as to his fitness in handling apparatus and operating pumps. During the summer months, drivers are taken to nearby ponds by the Drillmaster for refresher courses in pump operation. We feel that every member of the department should be able to drive the apparatus and run the pumps in emergencies.

Charles L. Slade, Chief, Des Moines, Ia.: Under our job classification ordinance there is no classification set up for chauffeurs or drivers so naturally they receive no more compensation than a private. Therefore there is no examination for this position and no specific training. If there was, with no additional pay I'm afraid we wouldn't have drivers.

We assign men as first, second, and third drivers, then from the actual experience they receive as second and third drivers and the ability they show to successfully perform the duties of a first driver, they are selected as a regular driver.

I do not believe a time limit can be established for the training of a driver as some men are naturals and some could never learn to drive under any training program, we do, however, try to train all members of a company to operate and drive well enough to handle the equipment in an emergency; this is included as company drills.

The driver who has shown interest in his job, has done something on his own to improve his ability as a driver and pump operator is certainly given consideration in promotional appointments.

In my opinion no man should receive promotion who had not proven himself a competent driver and operator. If he hasn't, how can he train men under his command in the operation of the company equipment?

C. N. Penn, Chief, Dallas, Tex.: Our Department has set up a Driver Training Program consisting of four Phases.

Phase 1 is a series of tests including Telebinocular, Field of Vision, Visual Acuity, Glare Recovery, Hand Steadiness, Complex Reaction, and Distance Judgment.

Phase 2 is a Road Test in Traffic. This test is given over a route approximately five miles long and includes right and left turns, hills, railroad and street car crossings, stop signs and signal lights, school and park zones and etc. The driver is scored on his ability to handle his apparatus safely under normal traffic conditions.

Phase 3 is a series of skill tests which tests the drivers ability to skillfully maneuver his apparatus. These tests include driving forward and backward on a straight line, maneuvering in close quarters, knowing location of front and rear of apparatus,

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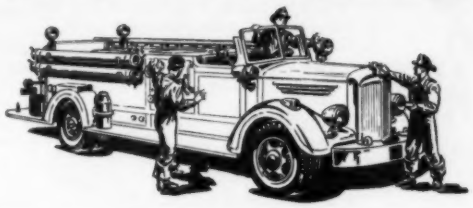

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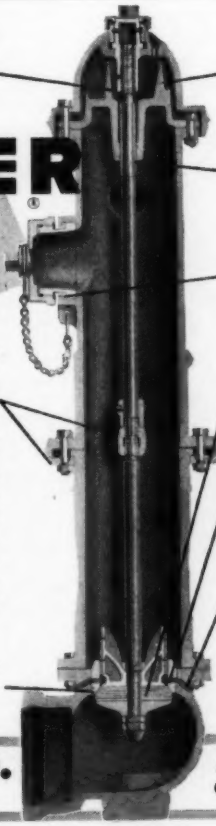

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set to plug, set aerial ladders and etc. Each driver is also given the Brake Detonator test to determine his reaction time and stopping distance.

Phase 4 is the training phase which includes lectures on attitudes, traffic problems, rules and regulations, traffic laws and ordinances and design and performance of all the makes of apparatus and pumps. Practical training is given on all makes of apparatus, including tilling aerial trucks. Pump operations are also included in Phase 4.

Drivers are selected by Civil Service examination, but before being assigned, they will receive the training in Phase 4 as outlined above.

While in Phase 4, the drivers are assigned to the Training Division for from four to six weeks, or until completion of the Phase.

All of our second, or relief, drivers are included in the Training Program.

The regular drivers are required to submit to the tests given in Phases 1, 2 and 3 every two years.

John H. Krusenklaus, Chief, Louisville, Ky.: Members receive driving experience prior to promotions to engineer.

Men are encouraged and permitted to drive apparatus returning from fire runs, and are placed in a position to operate fire pumps or aerial ladders at minor fires, or on less serious emergency runs.

Men cannot be promoted to engineer until they have completed two years' service, during which time they are constantly training.

An engineers school is held annually, and all members of the department may attend. The majority in attendance are those who will take the next engineers examination. Their operations are observed at all fires by the chief officers, any mistakes are brought out at officers forum, in addition to reprimand of the individual.

Edward F. Deignan, Chief, Elizabeth, N. J.: As is undoubtedly known, all firemen do not make good drivers of apparatus, regardless of their firemanic ability.

First, a candidate "screened" as driver material, must of necessity be a licensed driver. Then he is permitted to drive the apparatus back to quarters from alarms in other than traffic congested areas.

He is later taken on trial runs under the watchful eye of the Chief Mechanic, where any driving peculiarities are corrected, also any undue nervous tension is also noted. Where a member's driving faults cannot be corrected, he is not considered as driver material.

The member who is overly eager to be a driver "to be seen" is usually a poor risk as he usually fits into a "show-off" class.

When a member passes the qualifying tests, he is permitted to drive the apparatus from fires to the station.

Weekly driving drills are held and company participation in driving and tillering in remote areas, followed by a tour through the congested areas.

Mechanical misuse or abuse of an apparatus is usually indicative of an improper background for a driver.

In quarters, hypothethical situations are created concerning traffic conditions, traffic laws and motor defects that could crop up to plague a driver.

J. D. Foote, Chief, Ottawa, Ont.: Ninety-five per cent of men appointed to our department already have driving permits and all men are required to have the ability to drive regardless of the permit.

New members are tested in our ½ ton pick-up truck and then operate heavier units from ladder and fog wagons to aerial and pumpers.

Each new member spends 30 days in drill work, lectures, driving practice and visits all stations and their apparatus and equipment. He then is located at a station for one month and moves each month thereafter from station to station before he is placed at one station more or less permanently.

The more capable men are selected for driving duty, depending on their ability, coolheadedness, quick thinking and skill.

Walter G. Strickfaden, Chief, Columbus, Ohio: All new men appointed to the Fire Department, in the past five years have been given driver, tillerman and pump operation training.

The driver training consists of proper traffic procedure as well as handling of both the pump and ladder trucks, straight chassis and tractor-trailer aerials. They are taught the proper use of four and five speed transmissions, also double clutching, as well as forward and back shifting.

The average time required to train a driver is approximately one year over all and includes five weeks daily training in all the above phases of driving, then practical experience in driving on returns from fire runs until the man is thoroughly capable of relieving the regular driver.

After the above thorough training, they are then subject to the approval of their company commander.

Edward E. Wischer, Chief, Milwaukee, Wis.: Prospective drivers as well as tillermen of heavy duty equipment are given special instructions and training in driving and operating this equipment. This instruction and training is given under the supervision of the company officer and the regularly assigned drivers.

All members are encouraged to become accepted drivers. Driver prospects are given instruction in the operation of the vehicle, and are then permitted to drive apparatus when çeturning from alarms, or when apparatus is otherwise driven from quarters. Officers are required to secure permission from their respective battalion chief in order to take the apparatus from quarters on a practice run.

Much depends on the ability and previous experience of the student. Some members have passed the qualifying examinations within one year. When the Company commander feels that the member is competent to drive, arrangements are made to have the member take an acceptance driver test, conducted by our Motor Vehicle Instructor, who is under the jurisdiction of our Bureau of Instruction and Training. This officer determines the fitness, capabilities and driving habits and knowledge of the prospect. At regular intervals lists of members who passed the acceptance tests are published throughout the department.

Drivers of pumping engines are tested on their ability to drive the apparatus and handle the pumps. Drivers of ladder trucks are tested

on driving and tillerman operations, as well as operation of the aerial ladder mechanism.

Drivers of pumping engines are known as Motor Pump Operators, and receive a higher rate of pay. They are selected after competitive examinations, conducted by the Fire and Police Commission. The examination includes lifting water, general hydraulics, and other material on the pump and apparatus in general, as well as the driving test. Drivers of ladder trucks and tillermen have no special title nor do they receive extra pay, and are not specifically assigned as such. They qualify through tests conducted under the supervision of the Motor Vehicle Instructor.

Henry G. Thomas, Chief, Hartford, Conn.: We do not have a specialty school for fire apparatus drivers. Their training is incorporated into our year around training program. We do expect every man to be capable of driving and operating the mobile and other equipment to which he may be assigned.

In addition to regular drill operations at the training grounds, all companies have assigned days and hours, each week, during which the apparatus is taken from quarters and used for instructional purposes.

Returning from alarms men of the company other than the regular driver, which is a classified position, do the driving.

Length of time to qualify a man for driver does, of course, vary with the individual, but on an average the minimum would be about one year.

We do not have periodic tests of a driver's fitness other than observation by his company officer and the Deputy Chief, who serves as a full time Drill Master.

The position of driver, in this department, is a classified one, and appointment is made from an eligible list arrived at by competitive examination and test.

I might add that we are very safety conscious, keep a strict accounting of all accidents, however minor, and preventable accidents are charged to the driver's personal record. Incapable, careless or accelerator happy drivers are subject to disciplinary action.

Harrison A. Davis, Chief, El Paso, Tex.: Instructions are given prospective drivers and they receive training in pump operation at the department's training tower. They are tested as to driving aptitude in driving the apparatus back from fires. Later, they are used as relief drivers on the regular driver's day off.

A driver's examination is given only after a man has a minimum of two years service in the department. His examination grade is taken into consideration. Then the chief mechanic makes a report as to the candidate's proficiency in handling heavy equipment, pump operation and general knowledge required of a driver.

A. J. Nixon, Chief, Hamilton, Ont.: Apparatus drivers are given a 20-hour course of instruction in the various pump evolutions by the drill instructor and master mechanic. They are given a driver test by the master mechanic.

It is our intention to run an annual 20-hour course for all pump operators.

MYSTERY NOZZLE

Used by the Navy on Fire Boats in World War II, the JN 200 has a capacity of 1500 gallons per minute. It has 3½" National Standard threads and can be adapted to any 2½" Fire Department thread. Equipped with handles for adjusting the stream it features all the various degrees of fog—straight stream and shut off. Solid straight stream size range from booster to deluge. It is recommended for fire boats, portable deluge nozzles, turret guns and wherever water volume and fog are required. Lightweight—made of high tensile aluminum.

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RATCHET HYDRANT WRENCH

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FASTER—EASIER
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New Ratchet Principle

"It's the fastest, most convenient Wrench ever devised"—"The short 4" swing is wonderful to get into hard-to-reach places." "Your new Ratchet Wrench has been a life saver on many occasions."

Pentagon heads obtainable in following sizes—1¼"—1½"—1⅝"—2", all adjustable down to one inch.

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in
Black or White

HIGHEST QUALITY WATER REPELLENT FINISH. RUBBERIZED FABRIC LINING.

No. 50

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"The Science and Technique of

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PREVENTION, PROTECTION and EXTINGUISHMENT"

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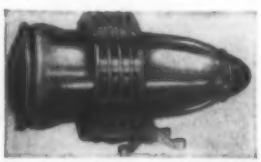

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WATERTIGHT—NEW DESIGN AND CONSTRUCTION FOR GREATER EFFECTIVENESS

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Dept. 27—214 WILLIAM ST., N.Y. 38, N.Y.

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

The Vamps Were Getting Shaggy—Hence Fire?

Out Kansas-way is Fredonia (pop. 3,500), named after Fredonia, N. Y., and founded in the early days by a man named Arthur Heath.

So much for the historical background of this tale, which concerns the Fredonia Fire Department, all 15 of 'em, and its Chief Feely Fulghum.

The 15 volunteers are paid $2.00 for each fire call. The chief draws a salary, and reports have it, sleeps in the fire station at night.

On March 2, Chief Fulghum waxed facetious over the fire that brought out the entire department, yet amounted to nothing.

The scene of the "blaze" was the rear of the Klassy Kleaners and the Kansan Theatre. This, said the chief, is the first call on his bunch of braves since November 27 last. And he again pointed out that each of the brave laddies gets two bucks for the fire calls he answers.

No calls, no haircuts, said the chief. Hence the crew was beginning to look a bit shaggy and, it is hinted, the prop of the barber shop wasn't doing too well either.

Tennyrate, the fire was small consequence—a patch of dry grass back of the theatre. But it brought out the "shaggy-haired" vamps.

Following, there seemed to be a bit of an upswing in the business of trimming hirsute appendages. But evidently not all the members were pleased: some of 'em were unkind enough to accuse one Mr. Jones of originating the blaze, then rushing to turn in the alarm—all for a haircut.—Thanks CHIEF FULGHUM

* * *

Orchids to Lieutenant McFarland, N.Y.F.D.

To Fire Lieutenant John J. R. McFarland, Ladder 131, New York Fire Department, go the orchids of the month.

The 31-year-old officer is recovering at Long Island College Hospital from serious injuries incurred in a successful attempt to rescue a small child on March 25, last.

Lieutenant McFarland, in command of Ladder 131 responding to an alarm of fire, found the upper floors of the 4-story apartment at 329 Union Street, Brooklyn, heavily charged with smoke.

The Lieutenant was successful in reaching the fourth floor and locating Joanne Fitzsimmons, 3, in a top apartment, but when he attempted to get her down, the smoke and heat made the stairwell impassible. Nor were ladders available because of the heavy smoke condition.

The Lieutenant got his little charge to the rear fire escape and headed for the roof, one story above. As he climbed, there was a muffled explosion, due evidently to backdraft, which blew out the windows of the second floor apartment where the fire had started. The blast knocked the officer and his charge loose from the fire escape ladder and both fell nearly four floors.

As the Lieutenant dropped, he wrapped his arms around the child and so maneuvered his body that he took the impact of the fall. His attempt to cushion her from injury was in vain and the child flew from his arms when he struck a concrete walk. Both rescuer and victim were badly injured.

The child's mother, unaware that the Lieutenant had found her daughter, was trying with her son Patrick, 8, to get into her apartment. They were led to safety by Battalion Chief John F. McGlynn.

Seventy other persons living in the apartment were evacuated safely. The cause of the fire was not immediately determined. Fire Commissioner Edward F. Cavanagh, Jr., visited the injured Lieutenant in the hospital to congratulate him upon his rescue. His little victim, as well as the officer, are reported out of danger.

* * *

Reciprocity!

One day last March Battalion Chief Flaherty of the San Francisco Fire Department and his wife were guests of Major Norris T. Morton, Chaplain of the Hamilton Air Force Base, California, and a live-wire fire buff. In the afternoon the red carpet was rolled out at the Base for the Chief at which time he had a close-up look at the Base's jet aircraft.

After dinner, at 8:00 P.M., an emergency call was received at the Chief's home. It was not for the Chief but for the cleric, who was called to Letterman Army Hospital at the Presidio, in San Francisco.

Fast time was made by the Chaplain answering the emergency. And why not? The driver was Chief Flaherty, none other! A postman's holiday?

* * *

Hot Off the Tape

In Wichita Falls, Tex., a woman set fire to her husband's late model car and pickup truck because, she said, he wouldn't let her drive them. . . . Ice was listed as the cause of a fire in the cellar of Mrs. Antoinette Laughlin's home in North Adams, Mass. Ice fell from the roof, struck a wire and caused a short circuit in the basement ceiling. . . . When water supplies ran out, the firemen of Comestock, Minn., stopped a grocery fire from spreading to a tavern by breaking beer bottles and dashing the contents on the saloon wall (write your own caption). . . . Headed "Plugs Can't Park Next to Plugs," a news item from Concord, N. C., read as follows: "When Tom Stillwell read reports of a possible gasoline shortage, he decided to hitch old Dobbin to the shay for his next trip downtown. 'Parked' on a main street, Dobbin soon found a traffic ticket attached to his bridle. Even a horse, it seemed, couldn't stop next to a fire plug." . . . We note by the wayward press that the "Dorothy Fire Company of Dorothy, N. J., plans new fire equipment, and will build a new fire house." . . . In Kansas City, the Fire Department made a run to Union Cemetary, one night, to "put out Russell F. Dykstra." Mr. Dykstra, busy overtime, reading tombstone inscriptions, was locked behind an eight-foot, spiked top,

"MORSE"
SHUT-OFF NOZZLE and PLAYPIPE
COMBINATION

The World's Finest

Fig. 156

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Use ISSCO's heat-reflecting aluminized asbestos hood and gloves. Gives you that extra protection around face and hands in approaching fire and in flash-backs. Hood has built-in helmet—adjustable to size: ¼" laminated safety glass window.

Gloves shown are ISSCO 114-AL (One of many styles we furnish).

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iron paling fence, and nobody could find the sexton. Six of the Brothers, with scaling ladders, hoisted reader-Dykstra, already two hours late for dinner, to freedom. . . . Tip o' the lid to Louis J. Burtak, treasurer of the Verdigre, Neb., Volunteer Fire Department, who was re-elected to his post of treasurer for the 43rd year—ever since the department was founded in 1912. . . . This is the way the report read: "Four Firemen and a young girl bystander were overcome by thick black smoke that covered the downtown area." The smoke came from a 6-hour, stubborn fire in an auto supply store at Perth Amboy, N. J. Q.E.D.—how close do bystanders hafta get to be overcome by smoke? . . . Commedienne Martha Raye dashed into the smoke-filled kitchen of her burning home in Westport, Conn., and saved her boxer dog Maggie. Fire was caused by explosion of two cooking-gas tanks outside house. Dog barked, rescue followed. Then Miss Raye phoned Westport vamps who held fire loss to $5,000. . . . When alarm rang in Fitchburg, Mass., firehouse, who—among others—answered the call, extinguisher in hand? Fire fighter Edmond R. Mayo. And what did responding Brothers discover on fire? Why—an auto. Owned by whom? Fire fighter Edmond R. Mayo.

* * *

Building a Fire Under the Meeting

Where there's a will there's a way.

Fire Chief Donald Moore, of the Deep River, Conn., Fire Deparment, believes in that old axiom, and when he gets an idea he doesn't mess around with it very long.

On March 23, a meeting of the Deep River Company was scheduled, but only a handful of the volunteers showed up. This irked Chief Moore no end. He pondered for a short while and then came up with an idea. He set fire to a large pile of debris across the street from the firehouse. Then he sounded the alarm. Quicker than it takes to tell about it, he had nearly every member of the Department on hand. They put out the fire and stayed for the meeting.

TOM MAGNER

* * *

An Oldie—But Always Good!

From William R. Beniker, Naval Air Station, Corpus Christi, Tex., comes this 'un which, although somewhat familiar, warrants repetition.

Seems that during a fire in a small town the editor of the local paper was unable to locate the regular reporter. So he sent out the young society editor to report it. Here is her report as it appeared.

"A brilliant fire was held yesterday afternoon at the residence of Mr. and Mrs. Smith on Dupont Avenue. A large number of people attended the function. Mrs. Smith, who recently appeared in these pages, made a charming escape in a blue silk blouse, the pattern of which appeared to be on the bright, gay side.

"The firemen, who presented an attractive appearance, were suitably garbed for the occasion.

"The weather was quite delightful for an affair of this kind, a strong wind blowing. It is rumored that the fire was on a larger scale than any previous affair of a similar kind for years. It is also rumored that it cost Mr. and Mrs. Smith about $25,000."

STILL THE BEST

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Inexpensive 75c bulb.

Fits either a 7½ or 9 volt Burgess battery, the battery used by more fire departments than any other.

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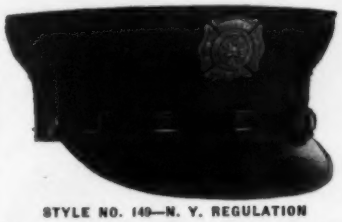
"HEAD-MASTER"®
FIRE FIGHTERS
UNIFORM CAPS



STYLE NO. 149—N. Y. REGULATION

The "HEAD-MASTER" Bell Top Fire Dept. Uniform Cap is the finest uniform cap on the market. For styling, comfort, quality and durability, order a "HEAD-MASTER." Made of 100% all wool blue serge which has been pre-shrunk and waterproofed. Built on the *original cane frame* for durability — 3-ply blocked visor with plastic binding — Genuine roan leather sweatbands.

ORDER "AMERICA'S FINEST" TODAY

4.95 EACH, IN DOZ. LOTS

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When he needs it—where he needs it

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PORTABLE ELECTRIC HAND LAMPS

Model 700-A 2000-foot beam

Most powerful, heavy-duty hand lamp of its size. Adjustable 6-inch head. Operates on four standard No. 6 dry cells.

Model 211 1500-foot beam

Popular price, light weight, easy to carry. Adjustable 5-inch head. Holds two standard 6-volt lantern batteries. Operates on one; other is a spare.

Write for folder on complete information on these and other Big Beam dry-cell and storage-battery models.

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You are assured of excellent workmanship.

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Short Cuts and Gadgets

MAP CARRIER FOR COUNTRY DEPARTMENTS

As has been pointed out in FIRE ENGINEERING, detail maps of the area protected are "standard requirements" of suburban, and rural fire departments.

There are different types of maps, from the normal colored road maps to the hydrographic and topographic outline maps giving altitudes, as well as streams, ponds, etc. The sizes may vary and sometimes this complicates the problem of carrying them in such fashion that they may be readily studied without having to unfold them or mount them in loose-leaf binders.

One reportedly satisfactory method of carrying these area maps is by replacing the left or right sun-visor of the car or apparatus, where such sun-visors are installed. In its place can be installed a simple map case consisting of a roller similar to a common Hartshorn shade. A metal frame holds this roller at the top; at the bottom, running parallel to the upper roller, is a smaller roller down and over which the map may be pulled. The whole assembly can be mounted on the fitting that held the sun-visor.

This replacement of the sun-visor is believed by some to be more convenient for easy map study than where the roller is placed beneath the cowl of the car. However, if the vehicle has no sun-visor, the latter method may be employed.

* * *

TO "CRACK" HOSE CONNECTIONS

The past winter has again demonstrated to many fire departments the rigors of fire fighting in sub-freezing temperatures. And one of the nastiest chores has been the "cracking" of frozen hose connections.

A constant reader of FIRE ENGINEERING, Louis "Smokey" Camardella at Oswego, N. Y., is one of those who has particularly bewailed the unpleasant task of picking up and "breaking" frozen hose under these icy conditions. He comes up with an idea for a gadget he thinks might make this chore a bit easier. Here's the way he puts it:

"Any fire that I have helped fight in the cold winter months has been made worse by the awful chore of cracking the connections on the hose after they have been frozen together.

"In my idea a metal cover hinged at one side would be fitted with a pipe for connection of a rubber line to an exhaust (of a motor vehicle). The gadget styled somewhat after the normal hose jacket, would then be clamped around the frozen connection and the hot exhaust left in. There would be no building up of pressure inside due to the escape holes drilled in it.

"This gadget could be connected to the exhaust of a portable gas motor, or to the exhaust of a fire truck. Experiments by the department would have to be carried out to determine the greatest amount of hose that the exhaust could be funneled or carried through before it loses its effectiveness. Perhaps it would be possible to employ the exhaust of a fire truck as the vehicle backs down the street from hose length to hose length, during picking up operations.

"I feel that with this gadget it would eliminate a lot of broken connections, too, due to pressure applied to the coupling when trying to loosen them."

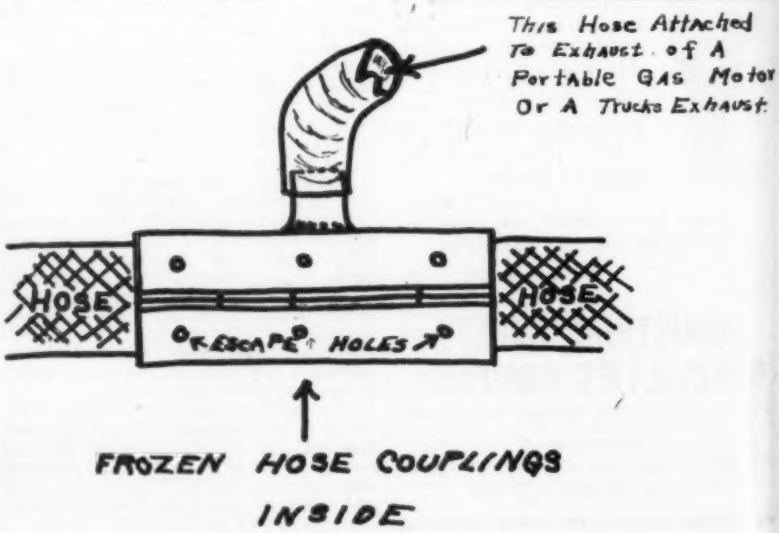
* * *

TOOL INVENTORY—INDEX

In the past we've published various sugestions about identifying the various equipment on fire apparatus in some simple way that would tell the unknowing what's on the rig—and where.

From John F. Martin, Assistant Chief of the Jamestown, N. Y., Fire Department, comes a communication bearing upon this subect, which we pass along to the cognoscente for what it may be worth. He writes:

"Modern fire fighting methods call for a great deal more tools and appliances than in the past, and this equipment seems to be on the increase, which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Model BHA 15L Light Weight 1750 Watt Unit on Skid

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Pioneer generators are modern in design, compact, require little space, and are ruggedly constructed. A variety of models are available mounted on skids for easy handling and pick up.

WRITE TODAY for illustrated catalogs and prices on 250 to 3600 watt units built by Pioneer for Fire Department use.

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MEMBERS CIVIL DEFENSE

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makes it almost impossible for any member of the fire service to remember them all.

"Also, modern fire apparatus today is built along enclosed lines with many compartments, which also adds to the confusion and difficulty of locating various items of equipment.

"Our department has adopted a way that we feel will overcome this problem. In all our apparatus, it being of the cab type, we install in the cab a cabinet directory, listing the various pieces of equipment on the vehicle. The cabinets are numbered for identification purposes. In the event that a member of the department not assigned to that particular piece of apparatus wishes to obtain any particular facility, he goes directly to the cab and finds out the location of the particular item, from the directory. It's a time-and-trouble-saver.

"I would also suggest that smaller communities and volunteer departments might in their specifications for new apparatus specify that cabinets should be numbered and a tool and appliance inventory directory container placed in each cab."

* * *

FOR AERIAL IDENTIFICATION

Reviewing the questionnaires returned by volunteer fire companies maintaining ambulance service, we note that the Gorham-Fayette Fire Department ambulance of Fayette, Ohio, has a large white cross outlined in red, with "FAYETTE" and the truck radio call-letters "E-1," painted on it for aerial identification. This is visible day and night (by flood light) from 1,000 foot altitude.

* * *

BUFF DESIGNS SAFETY BELT FOR FIRE FIGHTERS

Ben Ellis is an avid buff—or in New England terminology, "Spa-a-rk," who is able to combine avocation with vocation; he runs the Ellis Fire Appliance Co., in Boston, Mass.

Ben, who claims attendance at over 50,000 fires in this country and abroad, after witnessing several accidents due to falls from ladders, designed the belt illustrated herewith.

In some ways it parallels the belt used by the San Francisco and other Pacific Coast fire fighters (described in one of the earlier numbers of "Short Cuts & Gadgets").

Here's Ben and his belt.

HERE'S HELP

Here is the *new* manual of **INTERIOR** fire protection equipment, *brand* new. Data and illustrations on several *new* products as well as those you know about. Yours for the asking. It can help you two ways —

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News of the Manufacturers

(*Continued from page 454*)

New Gorman-Rupp Bulletin on Dual Fire Fighter Pumps

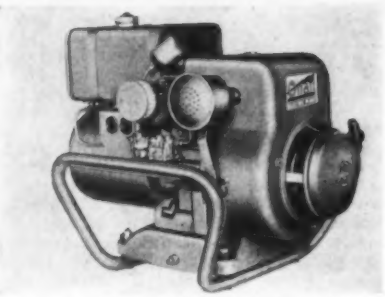
A new, colorful bulletin picturing and describing the Gorman-Rupp dual fire pumps, which are particularly useful where sources of water are inaccessible or it would be risky to use a regular pumper, has been issued by The Gorman-Rupp Company, Mansfield, Ohio.

The publication contains performance diagrams and features of the several different portables.

New Line of Small Plants Announced by Onan

A complete new line of small engine-driven electric generating plants ranging in size from 500 to 2,500 watts was announced by D. W. Onan & Sons Inc., Minneapolis, Minnesota.

The new models are available in sizes



New Onan engine-driven generating plant.

of 500 and 750 watts, 60-cycle, A.C., for the AK Series and in 1,000 and 2,500 watts, 60-cycle, A.C. in the AJ Series. Battery charging units are available in sizes ranging from 500 to 1500 watts D.C.

Because of their small size and high output per pound weight, the new AK and AJ models are particularly suitable for mobile and portable applications.

For fire departments, and other applications where electric power must be supplied independently, these new models meet the requirements of portability and heavy-duty service.

Powered by an Onan air-cooled, 4-cycle, single-cylinder gasoline engine, the AK models deliver 1.85 HP at 1800 RPM; the AJ models, 2.75 HP at 1800 RPM and 5 HP at 3600 RPM.

Silver Jubilee for N. J. Fire Equipment Co.

The New Jersey Fire Equipment Corp., of Dunellen, N. J. (Ernest N. Day, President) is celebrating its twenty-fifth anniversary. The company was organized by Mr. Day in 1930.

In its modern headquarters building, erected in 1950, the company maintains offices, a fire equipment museum and a fire apparatus and equipment warehouse. The present staff totals thirty-three.

Rate $8 per inch less 10% for three or more consecutive insertions.

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1955 NEW SPECIAL HEAVY-DUTY CHAMPION WILLYS 4 WHEEL DRIVE FIRE TRUCK 500 G.P.M. Champion front end front-proof pump; 200 gallon tank; 2 lengths suction hose; one reel with 150 ft. of hose & nozzles; 16 ft. extension ladder; 12 ft. roof ladder; pike pole; axe; siram; 360° Federal warning light on cab; 200 ft. of 1½" hose and nozzle; and hand lanterns.

WILL GO PLACES AND DO THINGS THAT NO OTHER FIRE TRUCK CAN DO.

Priced to sell at $5000.

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59 TUSCOLA ROAD
BAY CITY, MICHIGAN

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UNUSED SURPLUS

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2½"x50' SJ CRL fire hose, unused but soiled	$. 40 ft. cpld.

UNUSED & CLEAN FACTORY PACKED, GUARANTEED PERFECT

1½"x50' SJ CRL fire hose	$ .40 ft. cpld.
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Quotes on the Telephone

An interesting sidelight on the question of fire alarm boxes vs. telephones as means of calling the fire department is published in the British journal "Fire" for December, 1954. It occurs in a commentary on the visit of Fire Chief Henry Thomas (then president of the I.A.F.C.) to the British Isles, and reads:

"A colleague reminds me that when Chief Thomas was received at Southampton by CFO E. T. Hayward, he expressed startled surprise at the news that a busy terminal port, and a city of the status of Southampton, had removed its street fire alarms and was now relying on the GPO (General Post Office) telephone for transmission of fire calls. One would not have to travel far to find a large number of home-abiding Britons who share the view of Chief Thomas that the most dependable and foolproof means of calling the fire brigade is to "pull the box"; and that the telephone is merely a business adjunct, and sometimes a poor one at that."

Exhibits to Feature 1955 I.A.F.C. Conference

Chief Clyde Canning, Midvale, Utah, chairman of the Exhibit Committee of the International Association of Fire Chiefs reports that as of May 1st, 62 exhibitors have already reserved space for the Omaha Conference, September 19-22. These include:

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Memco Aerial Ladder Co.
Metcalf Brothers & Co., Inc.
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J. J. Monaghan Co.
Morris Paint & Varnish Co.
Motorola, Inc., Communications & Electronics Div.
Andrew Murphy & Son
Muscular Dystrophy Ass'n of America
Northwestern Telephone Co.
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Pitman Manufacturing Co.
Powhatan Brass & Iron Works
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Safa Alarm Div., Fyr-Fyter Co.
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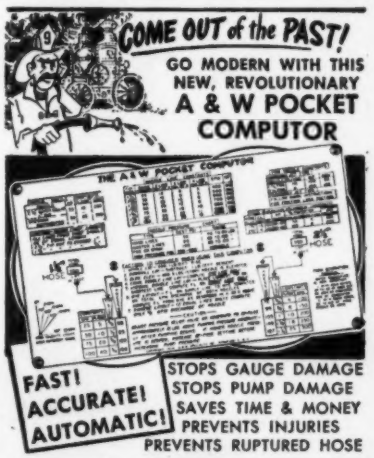
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